Creating a framework to enhance entrepreneurial education at the bhive Enterprise Development Centre of the North-West University

JD Landsberg



orcid.org/0000-0002-9309-3220

Thesis accepted in fulfilment of the requirements for the degree Doctor of Philosophy in Business Administration at the North-West University

Promoter: Prof SP van der Merwe

Co-promoter: Prof V Leendertz

Graduation: November 2022

DECLARATION

I, JD Landsberg, solemnly declare that this work is original and the result of my own labour. It has never, on any previous occasion, been presented in part or whole to any institution or board for the award of any degree.

I further declare that all information used and quoted has been duly acknowledged by complete reference.

ACKNOWLEDGEMENTS

I would like to thank the following people without whose support, guidance and encouragement the study would not have been possible.

First, my heavenly Father, for the opportunity, the strength, the ability, and the perseverance to complete this degree.

Estelle, thank you so much for all your assistance, motivation and love. Without you, I would not have been able to complete the degree successfully. Thank you for always bringing out the best in me.

David, Christiaan and Karla, thank you for your love and encouragement. Always follow your dreams.

Thank you, mom (RIP), for your love and support.

Thank you, Stoffel, Dewaldt, Susan, Eddie, Matthys, Heini and Willie, for your encouragement and support.

My promotor, Prof Stephan van der Merwe, thanks for the assistance and guidance.

Prof Verona Leendertz as co-promotor for her support, insight and guidance. Thank you for exposing me to qualitative research. You taught me everything I know about qualitative research.

Mrs Martie Esterhuizen from the NWU Vanderbijlpark Library for the guidance and assistance with the systematic literature review

ABSTRACT

South Africa faces unique challenges with low economic growth linked to a high unemployment rate. Statistics SA reported that women (regardless of the population group) made up a higher percentage compared to men in the Not in Education, Employment or Training (NEET) in quarter four of 2017. Entrepreneurship education can be a very handy tool to assist with job creation, especially for female entrepreneurs. Most South African universities have a form of entrepreneurial training or incubation service. The North-West University (NWU) Vanderbijlpark campus established the bhive Enterprise Development Centre (EDC) in 2013, focussing on female entrepreneurship. Female entrepreneurs face additional challenges such as a lack of confidence and lower education levels. Research previously conducted agrees that it is possible to teach someone to become an entrepreneur. The bhive EDC offers a short course for female entrepreneurs - Enterprising Women Programme (EWP) to assist with the start-up phases of business development. Furthermore, the exponential growth in international popularity of entrepreneurship and entrepreneurial education (EE) over the last ten years has led to the imminent adaptation of the EWP.

The primary objective of the study was to create a framework for EE at the bhive EDC of the NWU that is aligned with international best practices and is sustainable and relevant. The research question that guides this study falls into the interpretive paradigm. A qualitative research design is best suitable to address the subjective nature of this research. The research was conducted in three phases. A systematic literature review (SLR) was conducted as part of Phase I to investigate the current best practices in EE. In addition, a document analysis was performed to examine the fundamental requirements for a sustainable EE programme. Furthermore, documents were analysed to examine the current models for entrepreneurship education in both developing and developed countries. During Phase I, open-ended questions were conceptualised for the Phase II individual interviews. Phase III concluded is the development of a framework for EE.

Qualitative research focuses on understanding the social experience of the participants' perceptions. Qualitative researchers firmly believe that the surroundings influence human actions. In this study, the qualitative methods are used to establish which sections of the existing EWP have benefited the participants, what gaps the programme does not address currently, and to identify the learning preferences of the participants. Interviews were conducted with previous EWP participants to obtain empirical evidence about the shortcomings and successes of the current EWP. The researcher utilised codes, code groups and smart groups in the data organising, management, and evaluation process.

The interviews confirm that new and aspiring entrepreneurs are not content with the traditional classroom-based entrepreneurial training. New entrepreneurs prefer entrepreneurial training customised to fit their specific needs above a one-size-fits-all approach. The creativity training teaches participants how to think outside the box, which positively affects the businesses of the new entrepreneurs. Participants of the EWP indicated that the variety of activities that included teamwork, presentations by the participants and individual assignments made it easier to learn. The participants realised the importance of continuous learning to run and grow their businesses. Participants accentuated the importance of soft skills like time management skills, goals, spiritual intelligence, basic life skills, and a positive attitude. In addition, the brand development training was considered valuable, and the participants found the financial management and customer discovery training topics challenging.

The findings of the study provide a framework to enhance EE at the bhive Enterprise Development Centre of the North-West University. According to the literature reviewed, the framework reflects the most important EE components that should be included in EE activities and the important components as identified by the participants of the EWP.

Keywords: entrepreneurial skills, soft skills, entrepreneurial education, entrepreneurs, female entrepreneurs, framework for entrepreneurial education, entrepreneurship training, entrepreneurship education models

LIST OF ABBREVIATIONS, SYMBOLS AND ACRONYMS

bhive	:	Bridging Business and education by establishing a Hub of Innovative Ventures and Expertise
BMC	:	Business Model Canvas
BRICS	:	Brazil, Russia, India, China, and SA
GDP	:	Gross domestic product
EBC	:	Effectuation-informed Business Cooperation
EDC	:	Enterprise Development Centre
EE	:	Entrepreneurial education
EMS-REC	:	Economic and Management Sciences Research Ethics Committee
EWP	:	Enterprising Women Programme
KEEN	:	Kern Entrepreneurship Education Network
KSO	:	KEEN Student Outcome
GEM	:	Global Entrepreneurship Monitor
GIBS	:	Gordon Institute of Business Science
NEET	:	Not in Education, Employment or Training
NWU	:	North-West University
SA	:	South Africa
SLR	:	Systematic Literature Review

TABLE OF CONTENTS

DECLARATION ..... **i**

ACKNOWLEDGEMENTS ..... **ii**

ABSTRACT ..... **iii**

LIST OF ABBREVIATIONS, SYMBOLS AND ACRONYMS ..... **v**

TABLE OF CONTENTS ..... **vi**

LIST OF TABLES ..... **xv**

LIST OF FIGURES ..... **xvi**

CHAPTER 1 NATURE AND SCOPE OF THE STUDY **1**

1.1 INTRODUCTION **1**

1.2 BACKGROUND AND IMPORTANCE OF A STUDY ON ENTREPRENEURSHIP EDUCATION IN SOUTH AFRICA **3**

1.3 ENTREPRENEURSHIP PROGRAMMES OFFERED BY THE UNIVERSITY **4**

1.3.1 Female entrepreneurs 4

1.3.2 Entrepreneurial student programmes at the North-West University 5

1.3.3 Entrepreneurs from the community 6

1.4 RESEARCH PROBLEM STATEMENT **6**

1.5 PURPOSE OF THE STUDY **7**

1.6 OBJECTIVES OF THE STUDY **7**

1.6.1 Primary objective 8

1.6.2 Secondary objective 8

1.7 RESEARCH DESIGN AND METHODOLOGY **8**

1.7.1 Research paradigm 8

1.7.2 Qualitative research design 11

1.7.2.1 Phase I: Systematic literature review 12

1.7.2.2 Phase II: Qualitative data collection - individual interviews 16

1.8 ETHICAL CONSIDERATIONS **21**

1.9 CONTRIBUTIONS OF THE STUDY **21**

1.10 DELIMITATION OF THE STUDY 22

1.11 CHAPTER CLASSIFICATION 22

CHAPTER 2 ENTREPRENEURSHIP AND ENTREPRENEURSHIP EDUCATION: A LITERATURE REVIEW 24

2.1 INTRODUCTION 24

2.2 DEVELOPMENT AND GROWTH INITIATIVES IN SOUTH AFRICA 25

2.2.1 The South African economy 25

2.2.2 Influence of development and growth initiatives on the South African economy 25

2.3 THE ROLE OF ENTREPRENEURSHIP IN DEVELOPMENT AND GROWTH OF THE SOUTH AFRICAN ECONOMY 27

2.3.1 The definition of entrepreneurship 27

2.3.2 The impact of total early stage entrepreneurial activity on economic development and growth 27

2.3.3 The impact of perceptions on entrepreneurial activity 29

2.3.4 Entrepreneurship and business management 30

2.4 THE IMPACT OF ENTREPRENEURSHIP ON ECONOMIC GROWTH 31

2.5 THE ENTREPRENEURSHIP EDUCATION DEBATE 32

2.5.1 Entrepreneurship programmes 32

2.5.2 Entrepreneurship teaching methods 33

2.6 DISTINCT DIFFERENCES BETWEEN FEMALE AND MALE ENTREPRENEURS 35

2.7 THE VALUE OF FEMALE ENTREPRENEURS FOR ECONOMIC DEVELOPMENT AND GROWTH IN SOUTH AFRICA 35

2.8 ENTREPRENEURSHIP EDUCATION AVAILABLE FOR FEMALE ENTREPRENEURS 36

2.9 AN INTRODUCTION TO THE GLOBAL PERSPECTIVE ON ENTREPRENEURSHIP EDUCATION FOR ECONOMIC DEVELOPMENT AND GROWTH 39

2.9.1 Definition of entrepreneurship education frameworks and models 40

2.9.2 Trends in entrepreneurship education 40

2.9.2.1 The outside-in approach 40

2.9.2.2 Use of the business model canvas, business plan, lean start-up and conceptual models 40

2.9.2.3 The Camp and LAB studio model 42

2.9.2.4 The art and science of entrepreneurship 43

2.9.2.5 Experiential learning, learning by doing, active learning, learning, project-based training and teamwork ... 43
2.9.2.6 The use of successful role models ... 43
2.9.2.7 Contextualising trends in entrepreneurship education for economic development and growth ... 44

2.10 CONCLUSION ... 47

CHAPTER 3 PHASE I RESEARCH DESIGN AND METHODOLOGY OF A SYSTEMATIC LITERATURE REVIEW ... 48

3.1 INTRODUCTION ... 49

3.2 PARADIGMS OF RESEARCH ... 49
3.2.1 Overview of the paradigms of research ... 49
3.2.1.1 Ontology of this research ... 51
3.2.1.2 Epistemology of this research ... 51

3.3 RESEARCH DESIGNS ... 52
3.3.1 Quantitative research design ... 53
3.3.2 Mixed methods research design ... 54
3.3.3 Qualitative research design ... 54

3.4 SYSTEMATIC LITERATURE REVIEW ... 55
3.4.1 Defining systematic literature review ... 55
3.4.2 Strengths and weaknesses of systematic literature review ... 56
3.4.3 Three stages of a systematic literature review ... 57
3.4.3.1 Stage 1: Plan the review ... 57
3.4.3.2 Stage 2: Conducting the review ... 62
3.4.3.3 Stage 3: Reporting the review ... 86

3.5 • Learning by doing: this involves experiential learning and action learning.CONCLUSION ... 90

CHAPTER 4 PHASE I MODELS FOR ENTREPRENEURIAL TRAINING AND DEVELOPMENT FOR UNDERDEVELOPED COUNTRIES ... 91

4.1 INTRODUCTION ... 92

4.2 OVERVIEW OF ENTREPRENEURSHIP EDUCATION, TRAINING AND DEVELOPMENT ... 94
4.2.1 Entrepreneurship education (art and science of entrepreneurship) ... 94
4.2.2 Entrepreneurial process, entrepreneurial teaching and training ... 95
4.2.3 Entrepreneurship education and teaching framework development ... 96
4.2.4 Entrepreneurship training and curriculum development ... 96

4.3 ENTREPRENEURSHIP TRAINING AND DEVELOPMENT 97
4.3.1 Approaches to entrepreneurship training and development 97
4.3.1.1 Continuous entrepreneurial training and development 97
4.3.1.2 Knowledge and evidence-based model for entrepreneurial training and development 98
4.3.1.3 Personalised entrepreneurial training and development for unique groups 105
4.3.2 Entrepreneurial training and development strategies 111
4.3.2.1 Entrepreneurship skills 111
4.3.2.2 Future-based learning 112
4.3.2.3 Problem-based learning 112
4.3.2.4 Soft skills training for entrepreneurial education 119
4.3.2.5 Use of key speakers, role models and storytelling for entrepreneurial education 120
4.3.3 Entrepreneurial training and development support 121
4.3.4 Entrepreneurial training and development facilitation 121
4.3.4.1 Business incubation support and entrepreneurial encouragement for entrepreneurial training and development 126

4.4 INITIAL FRAMEWORK OF EXISTING ENTREPRENEURIAL TRAINING AND DEVELOPMENT MODELS 126
4.4.1 Existing foundational entrepreneurial training and development models 126
4.4.1.1 Camp Model of entrepreneurial training and development 127
4.4.1.2 LAB studio model of entrepreneurial training and development 127
4.4.1.3 Use of business competition, business simulation and serious games for entrepreneurial training and development 128
4.4.1.4 Creativity, creative thinking and innovative entrepreneurship for entrepreneurial training and development 129
4.4.1.5 Experiential training model, experiential training and learning for entrepreneurial training and development 130
4.4.2 Analysing existing entrepreneurial training and development model outcomes, assessment and content 132
4.4.2.1 Evaluation of entrepreneurship education content 132
4.4.2.2 Evaluation of entrepreneurship education outcomes 135
4.4.3 Existing entrepreneurial training and development strategies 135
4.4.3.1 Creating networking opportunities for entrepreneurial training and development 136
4.4.3.2 Entrepreneurial competencies for entrepreneurial training and development 136
4.4.3.3 Mentorship for entrepreneurial training and development 138
4.4.3.4 Reflection as part of entrepreneurial training and development 140
4.4.3.5 Use of Business Model, lean start-up or business plan for entrepreneurial training and development 140
4.4.3.6 Use of case studies for entrepreneurial training and development 144

4.5 INITIAL ENTREPRENEURIAL EDUCATION FRAMEWORK FROM THE SYSTEMATIC LITERATURE REVIEW FINDINGS 144

4.6 CONCLUSION 154

CHAPTER 5 PHASE II RESEARCH DESIGN AND METHODOLOGY OF A QUALITATIVE CASE STUDY 155

5.1 INTRODUCTION 156

5.2 WORLD-VIEW OF PHASE II OF THE RESEARCH 156

5.3 RESEARCH DESIGN FOR PHASE II OF THE RESEARCH 156

5.3.1 Qualitative research design 156

5.3.2 Five interactive qualitative research designs 157

5.3.2.1 Phenomenology 157

5.3.2.2 Grounded theory 158

5.3.2.3 Ethnography 158

5.3.2.4 Critical studies 158

5.3.2.5 Case study 158

5.3.3 Nine key characteristics of qualitative designs 159

5.3.3.1 Complexity of explanation and understanding 159

5.3.3.2 Context sensitivity 160

5.3.3.3 Direct data collection 161

5.3.3.4 Emergent design 161

5.3.3.5 Inductive data analyses 161

5.3.3.6 Natural settings 161

5.3.3.7 Participant perspectives 161

5.3.3.8 Process orientation 162

5.3.3.9 Rich narrative 162

5.3.4 Strengths and weaknesses of qualitative research 162

5.3.4.1 Strengths of qualitative research 163

5.3.4.2 Weaknesses of qualitative research 164

5.4 THE ROLE OF THE RESEARCHER 165

5.5 DATA COLLECTION STRATEGY 165

5.5.1 Interviews 165

5.5.2 Different types of interviews 166

5.6 SAMPLING METHOD 167

5.7 DATA ANALYSES 169

5.7.1 Value of qualitative data analyses 171
5.7.2 Challenges during data analyses 171
5.7.3 Deductive and inductive combination 172
5.7.4 Creating themes, codes, smart codes and relationships 172
5.8 TRUSTWORTHINESS 174
5.9 ETHICS 175
5.9.1 Ethics in fieldwork 176
5.10 CONCLUSION 177
CHAPTER 6 PHASE II FINDINGS FROM THE QUALITATIVE CASE STUDY 179
6.1 INTRODUCTION 180
6.2 MODEL FOR TRAINING AND DEVELOPMENT 182
6.2.1 Camp Model of entrepreneurship education 182
6.2.2 Creativity and creative thinking 182
6.2.3 Experiential learning 183
6.3 ENTREPRENEURIAL TRAINING AND DEVELOPMENT 183
6.3.1 Continuous entrepreneurial learning 183
6.3.2 Soft skills training 184
6.3.3 Entrepreneurship skills 186
6.3.4 Knowledge-based model 186
6.3.5 Learning by doing 187
6.3.6 Personalised education 188
6.3.7 Problem-based learning 188
6.3.8 Teacher as facilitator 189
6.3.9 Use of key speakers and role models 189
6.4 OVERVIEW OF ENTREPRENEURSHIP TRAINING AND DEVELOPMENT MODELS 190
6.4.1 Business training 190
6.4.2 Entrepreneurial process 192
6.4.3 Entrepreneurial teaching 193
6.4.4 Entrepreneurship education 194
6.4.5 Entrepreneurship education framework 194
6.4.6 Entrepreneurship training 195
6.5 FRAMEWORK FOR ENTREPRENEURIAL TRAINING AND DEVELOPMENT 195

6.5.1 Hybrid learning model 195
6.5.2 Creating networking opportunities 196
6.5.3 Effectuation 197
6.5.4 Entrepreneurial competencies 198
6.5.5 Financial management training 199
6.5.6 How to access funding 200
6.5.7 Mentorship 201
6.5.8 Reflection 202
6.5.9 Understanding contracting and legal requirements 202
6.5.10 Use of business model 203
6.5.11 Use of case studies 203
6.5.12 Use of digital, online and social media 204

6.6 CREATING AN INITIAL ENTREPRENEURSHIP EDUCATION FRAMEWORK FROM THE FINDINGS OF THE INTERVIEWS 205

6.7 CONCLUSION 213

CHAPTER 7 PHASE III CREATING A FRAMEWORK TO ENHANCE ENTREPRENEURIAL EDUCATION AT THE BHIVE ENTERPRISE DEVELOPMENT CENTRE OF THE NORTH-WEST UNIVERSITY, ... 214

7.1 INTRODUCTION 215

7.2 A SYNOPSIS OF THE FRAMEWORK FOR ENTREPRENEURIAL EDUCATION 215

7.3 CONCLUSION 231

CHAPTER 8 CONTRIBUTIONS AND RECOMMENDATIONS FOR THE IMPLEMENTATION OF THE FRAMEWORK FOR ENTREPRENEURIAL EDUCATION 232

8.1 INTRODUCTION 232

8.2 RESEARCH FINDINGS 232

8.2.1 Achievement of primary and secondary objectives 232
8.2.2 Research findings 234
8.2.2.1 The findings of the SLR and the case study agree or complement each other in the following instances: 234
8.2.2.2 The participants of the case study identify the following specific needs: 238
8.2.2.3 The following findings were presented in the SLR only 241

8.3 Relationship between the research question and the research themes to the theoretical base of the study. 241
8.3.1 The overview of the EE theme includes: 243
8.3.2 The entrepreneurial training and development theme includes: 243
8.3.3 Initial entrepreneurial framework theme 244
8.3.4 Framework for EE theme 244
8.4 CONCLUSIONS OF STUDY 245
8.5 RECOMMENDATIONS OF THE STUDY 245
8.5.1 Practical guide to use the framework for EE 246
8.5.1.1 Practical suggestions on the use of the figure 8.1 guide to use the EE framework 249
8.5.2 Managerial implications for all stakeholders 252
8.5.2.1 South African government, policymakers, politicians, and the department of education 252
8.5.2.2 Public and private universities and TVET colleges and short course suppliers 253
8.5.2.3 Private suppliers of EE 253
8.5.2.4 Business incubators 254
8.5.2.5 Consultants like KPMG, PWC and Deloitte 254
8.5.2.6 Corporate South Africa 254
8.6 STUDY CONTRIBUTIONS 254
8.7 LIMITATIONS OF THE STUDY 255
8.8 FUTURE RESEARCH 256
8.9 REFLECTION 256
8.10 SUMMARY 257
BIBLIOGRAPHY 259
ANNEXURES 275
ANNEXURE 1: SYSTEMATIC LITERATURE REVIEW – IDENTIFIED CODES 275
ANNEXURE 2: COHEN'S KAPPA 280
ANNEXURE 3: INITIAL INTERVIEW QUESTIONS 283
ANNEXURE 4: ADAPTED INTERVIEW QUESTIONS 285
ANNEXURE 5: EXAMPLE OF CONSENT TO INTERVIEW 287

ANNEXURE 6: ETHICS CLEARANCE 289

ANNEXURE 7: DECLARATION OF LANGUAGE EDITING 290

LIST OF TABLES

Table 2.1: Comparison of GDP growth 2017–2020 26
Table 3.1: Differences between quantitative and qualitative research designs 52
Table 3.2: Checklist executed for the systematic literature review for this study 59
Table 3.3: Documentation of the search process on databases 64
Table 3.4: Procedures for documenting the searches 71
Table 3.5: Search review process 73
Table 3.6: List of articles included in SLR 74
Table 3.7: Stages of coding 84
Table 3.8: Cohen's kappa ratings 85
Table 3.9: Codes, code groups and smart groups 86
Table 4.1: Types of knowledge 98
Table 4.2: Proposed experiential learning tools 106
Table 4.3: Entrepreneurship education programmes should include the following elements 107
Table 4.4: Identified entrepreneurial skills 111
Table 4.5: Learning by doing skills, teaching methods and tools 113
Table 4.6: Summary of the proposed soft skills 119
Table 4.7: Key points for facilitators in the entrepreneurship education and training environment 121
Table 4.8: Existing entrepreneurial training and development models 127
Table 4.9: Important entrepreneurial competencies that must form part of entrepreneurial training 137
Table 4.10: Perceived benefits of business model objects 142
Table 4.11: Entrepreneurship education framework from the systematic literature review findings 145
Table 5.1: Interactive qualitative designs 157
Table 5.2: Nine key characteristics of qualitative designs 159
Table 5.3: Strengths and weaknesses of qualitative research 163
Table 5.4: Different types of interview structures 166
Table 6.1: Entrepreneurial education framework from the findings of the interviews 206
Table 7.1: Entrepreneurship education framework 217
Table 8.1: Appraisal of secondary objectives 233
Table 8.2: Relationship between the research question and the research themes 242

LIST OF FIGURES

Figure 1.1: The four paradigms of social research 9
Figure 1.2: Case study qualitative research design and methodology Phase I, Phase II and Phase III 11
Figure 1.3: Systematic literature review process flow 13
Figure 2.1: Literature review 24
Figure 3.1: Research design and methodology: A Qualitative case study 48
Figure 3.2: Four paradigms of research 50
Figure 3.3: Systematic literature review process 57
Figure 3.4: Author map of articles included for data analysis 83
Figure 3.5: Contents and structure of SLR report (Adapted from Kitchenham (2007)) 89
Figure 4.1: Research design and methodology: A Qualitative case study 91
Figure 4.2: Findings from Phase I systematic literature review 93
Figure 4.3: Overview of entrepreneurship education, training and development 94
Figure 4.4: Shows the components of the approaches to entrepreneurship training 97
Figure 4.5: Overview of entrepreneurial training and development support 121
Figure 4.6: Overview of existing entrepreneurial training and development strategies . 135
Figure 5.1: Creating a framework for enhancing entrepreneurial education at the bhive EDC of the NWU, ... 155
Figure 5.2: Map of the three campuses of the NWU 169
Figure 5.3: Code book bar chart 174
Figure 6.1: Research design and methodology: A Qualitative case study 179
Figure 6.2: Findings from Phase II case study 181
Figure 7.1: Research design and methodology: A Qualitative case study 214
Figure 8.1: Schematic representation of the guide to use the EE framework 247

CHAPTER 1
NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

Entrepreneurship and entrepreneurial education (EE) have become exceptionally popular in the last 10 years (Bullough *et al.,* 2015:250). The past three decades signified a role change for women in the community and business world. Entrepreneurship has been a popular field of study for many decades. Entrepreneurship is considered an important means to empower women out of poverty and create jobs (Bosma *et al.*, 2020). The Global Entrepreneurship Monitor (GEM) research indicates that female entrepreneurs still lag behind the men in spite of taking a much stronger and more robust role in some of the 50 economies participating in the GEM research (Bosma *et al*., 2020). The study of women entrepreneurs as a separate field of study only started in the 1970s (Greene *et al.*, 2003:1). There are still many researchers who believe there is no difference between male and female entrepreneurs. The leading researchers of female entrepreneurs have shown that significant differences exist between male and female entrepreneurs in terms of character traits, characteristics and management style (De Bruin *et al*., 2006:586). The main differences arise in growth patterns, industry choices, financing strategy and motivation to start a business. Similarities exist, especially in personal demographics (Greene *et al.*, 2003:1).

In the 50 economies participating in the GEM 2019/2020 global report research, the male entrepreneurs are more financially orientated in their objectives and they are more likely than women to continue with the family business (Bosma *et al*., 2020). More female entrepreneurs starting a business want to make a positive difference in the world. Female entrepreneurs are more purpose-driven than men (Bosma *et al*., 2020). Large corporate companies do not create new jobs in the current world economy; small and medium-sized companies contribute to job creation. The solution to high unemployment and low growth lies in creating and supporting small and medium-sized enterprises (Ambrish, 2014:224; Phillips *et al.*, 2014:86), particularly entrepreneurship education for women. Entrepreneurship is considered an important tool to lift women out of poverty and create jobs (Bosma *et al*., 2020). Entrepreneurship education forms an integral part of the entrepreneurship process, especially to uplift potential female entrepreneurs (Bosma *et al*., 2020).

Mwasalwiba (2010:21-26) executed a systematic literature review (SLR) on entrepreneurship education. The review was done using six thematically separated Excel data collection spreadsheets in which 108 articles were reviewed. He found that only a few authors define

entrepreneurship education in his analysis. Most of these authors become entangled in contrasting entrepreneurship schools of thought. A total of 32% of the reviewed articles defined EE as a process that influences the individual's values, attitudes or behaviour towards entrepreneurship. These scholars show a partial convergence towards a behavioural view of an entrepreneur. An equal number of the reviewed articles (32%) focussed on attaining personal skills as the main emphasis of entrepreneurship education (Mwasalwiba, 2010:25-26). Seikkula *et al.* (2010:119) describe EE as inclusive of three central aims: (i) learning to understand entrepreneurship, (ii) learning to become more entrepreneurial and (iii) learning to become an entrepreneur. Therefore, EE should be considered to include both learning content and a method Seikkula *et al.* (2010:119). Neck and Greene (2011) and Neck *et al*. (2014:17) substantiated that EE should have a strong emphasis on teaching that goes beyond just knowing and understanding (Neck & Greene, 2011:57; Neck *et al.*, 2014:17), but training students to apply the knowledge practically and reflect on the process as well. It is important to consider the background and importance of a study on EE in South Africa.

The South African economy is currently growing at less than 1% per year. The low growth rate of 0.2% from 2018 to 2019 and the higher population growth rate contribute to the high unemployment rate (StatisticsSA, 2020a:8). The overall unemployment rate is high at 29.1%. Youth unemployment (15–24 years) is especially high at 58% (StatisticsSA, 2020b:9,23). A poorly functioning school system with inadequate training and education contributes to the low growth rate and high unemployment rate (Herrington *et al.*, 2017:5).

South Africa is classified as an efficiency-driven economy by the 2017/2018 GEM (Singer *et al*., 2018:20). The GEM report uses the total early-stage entrepreneurial activity (TEA) ratio to compare the entrepreneurial activity between countries. TEA calculates the percentage of the adult population aged between 19 and 64 years who are starting a business or who have recently (less than 42 months before the survey took place). The indicator can also include the motivation for starting a business (necessity vs opportunity), inclusiveness (age, gender), impact (expected job creation), innovation and industry sectors. Compared to other efficiency-driven economies, South Africa's TEA is low at 11% compared to Brazil at 20.3%. In South Africa, the female/male TEA ratio is 0.74. This rate is below Latin America with a ratio of 0.85 (Herrington *et al.*, 2017:18,82). Chinomona and Maziriri (2015:837) and Meyer and Landsberg (2015:3868) affirmed that historically the opportunities for females, especially black females, were almost non-existent due to: gender and racial inequalities, the uneven distribution of resources among different groups and the disparity in female to male entrepreneurial ratio. An entrepreneur can be described as a person who has the necessary skills to utilise new or existing business opportunities creatively,

thereby providing services and or products freshly or innovatively to market (Jayeoba, 2015:220-221).

Most universities in South Africa have a business incubator or a form of EE. Since 2013, the North-West University (NWU) Vanderbijlpark Campus, bhive Enterprise Development Centre (EDC), has offered a short course for female entrepreneurs in the pre-start-up and start-up phases of developing a business. The short course has been offered from 2013–2019 at the Vanderbijlpark campus, the Mahikeng campus from 2018, the Potchefstroom campus from 2019 and online from 2020 to about 170 women in total. It has only undergone minor changes since its implementation in 2013.

Therefore, it is time for the programme to be evaluated and updated to ensure it stays relevant and adds value to the women enrolled in it. Furthermore, this study aims to: (i) adhere to the strategic focus of the NWU (NWU, 2017:9), (ii) provide more women access to the programme as the bhive EDC envisions to amend the programme based on the findings, and (iii) develop an EE framework to assist in the design of future EE modules, workshops and training initiatives.

1.2 BACKGROUND AND IMPORTANCE OF A STUDY ON ENTREPRENEURSHIP EDUCATION IN SOUTH AFRICA

South Africa has unique economic challenges with a high unemployment rate and low economic growth (StatisticsSA, 2020a:11). The Vaal Triangle is located on the Gauteng and the Free State province's border. Both Gauteng and the Free State have high unemployment rates, Gauteng for October to December 2019 at 30.8% and the Free State for October to December 2019 at 35.0% (StatisticsSA, 2020b:9).

Information about people who are “Not in Education, Employment or Training” (NEET) is used to monitor the social dynamics of the marginalised people in society. It is a concern that the percentage of women who were NEET in the fourth quarter of 2017, was higher than their male counterparts, regardless of the population group to which they belong. A high percentage NEET is considered one of the greatest threats to social stability. In the last five years reviewed by the Department of Higher Education, most NEET people were black/African and female. African/black (male and female) make up 84% of NEET, while females (of all races) constitute 58% of the total NEETs (Department of Higher Education and Training, 2018:4).

The female NEETs have marginally higher levels of education compared to males. In 2017 home-makers were the highest number of people who were NEET (1.3 Million), followed by people with

health reasons for not working at 1.1 million. The NEET rate for young women has increased for all population groups except for African women.

High youth unemployment, especially among females, is a big concern (StatisticsSA, 2020a:11). The business industry in South Africa needs to create more jobs to boost the unemployment rate. Micro, small and medium-sized businesses have been identified as effective job creators (Ambrish, 2014:226; Phillips *et al*., 2014:86). The South African government and other stakeholders (public and private universities, TVET colleges, department of education, private suppliers, business incubators, short course suppliers, consultants like KPMG, PWC and Deloitte, policymakers, politicians and corporate South Africa) must focus on enabling entrepreneurs to start new businesses by creating an enabling environment and offering practical training to entrepreneurs and aspiring entrepreneurs (Herrington *et al*., 2017:5).

1.3 ENTREPRENEURSHIP PROGRAMMES OFFERED BY THE UNIVERSITY

In 2011, the bhive EDC was established to address the economic challenges in the Vaal Triangle region. The Netherlands Universities Foundation for International Cooperation (NUFFIC) assisted the NWU, via the Netherlands Initiative for Capacity Development in Higher Education (NICHE), to establish the bhive EDC. The purpose of the bhive EDC is to make a positive and lasting difference in the community. The bhive EDC has three focus areas: (i) female entrepreneurs, (ii) entrepreneurial student programmes, and (iii) entrepreneurs from the community. The following sessions explicate the three respective programmes briefly.

1.3.1 Female entrepreneurs

The bhive EDC offers a female entrepreneurial programme, the EWP, launched in 2013. The programme is an accredited short course at the NWU. The EWP focuses on assisting female entrepreneurs from the Vaal Triangle, Potchefstroom and Mahikeng communities in their business's pre-start-up and start-up phases. The intake is deliberately limited to a maximum of 25 ladies per programme to ensure that the participants receive adequate support. Training includes interactive workshops with initial academic content followed by practical implementation of the acquired knowledge. The topics covered in training include: (i) how to use the business model canvas (BMC), (ii) conducting market research, (iii) organisational compliance, (iv) branding, (v) marketing, (vi) business systems, (vii) financial and legal issues. Participants get homework assignments to complete. The assessments include: (i) a written report, (ii) a group presentation, (iii) a business plan based on the BMC, and (iv) a presentation to a panel of judges based on the nine building blocks of the BMC.

Since the programme's inception, it has been presented more than ten times. About 170 female entrepreneurs participated in the EWP of which 150 (88%) of these entrepreneurs completed the programme and 100 (59%) have successful businesses. The EWP focuses on female entrepreneurs' pre-start-up and start-up phases of creating their businesses. Within the framework mentioned above, a successful business is a business that provides a product or service to a growing customer base and at least employs the owner (Own definition). Minor adaptations were made during the programme presentation based on informal feedback from participants and the content developers. However, NWU is moving towards a more modern form of teaching and learning that can include online and face-to-face real-time components to allow more people to participate in the university's programmes (NWU, 2017:7). The current design of the EWP limits the online features and takes place in the form of workshops, i.e. three consecutive days per month with three-hour sessions per topic for six months. The current format limits the number of participants in the programme to female entrepreneurs from the area surrounding the respective campuses.

The White Paper for Post School Education and Training articulates access for more students in higher education (Department of Higher Education and Training, 2013:vii, viii, xi,3 0). The initial programme used design-based research to conceptualise the programme. The current programme format relies only on workshops to present the programme and limits numbers to 25 per facilitator. Therefore, to enable more females to become part of the programme, the design has to be amended to increase the capacity while offering both an efficient and effective programme.

1.3.2 Entrepreneurial student programmes at the North-West University

The entrepreneurial student programmes encompass an annual student business competition and two student associations. The student business competition takes place annually whereby students who win obtain seed funding, mentorships and time in the incubator to develop their businesses. Two entrepreneurial student associations, *Young Entrepreneurs Business Organisation* (YEBO) and *Enactus* form part of the student programme (Enactus-SA, 2018, May 2). YEBO focuses on promoting entrepreneurship activities, talks and workshops, whereas Enactus is affiliated with an international organisation that focuses on social entrepreneurship. Enactus is considered the largest experiential learning programme devoted to creating a better world while developing social innovators and entrepreneurial leaders for the next generation. The Enactus vision is to create a better, more sustainable world and unify a global network of academic, business and student leaders. Enactus invest in students who take entrepreneurial action in their communities to create a better world for all. The Enactus community consist of 72

000 students who are entrepreneurial, social innovators that are value-driven, spread over 1 730 campuses in 36 countries that affect the lives of 1.3 million people every year. The student teams, guided by educators and supported by local business leaders conduct needs assessments in their communities, identify possible solutions to complex issues and then implement impact projects in the community. This approach ensures that communities benefit from this collaboration and the students gain valuable business and project experience that will assist them in advancing their professional and personal lives. The Enactus teams participate in annual regional and national competitions showcasing their projects' impact. Global business leaders judge the teams to select the teams that advance to the prestigious Enactus World Cup competition.

1.3.3 Entrepreneurs from the community

Local entrepreneurs or aspiring entrepreneurs can join the bhive EDC incubation or mentorship programmes or attend workshops on a wide range of entrepreneurial topics. Annually the bhive EDC offers about ten workshops with between 20 to 50 participants.

1.4 RESEARCH PROBLEM STATEMENT

The background study shows that female entrepreneurs experience unique barriers, problems and constraints (Meyer & Landsberg, 2015:3454). The lack of EE was identified as a significant barrier for females to start and run their businesses (Botha *et al*., 2007:163-164; Meyer & Landsberg, 2015:3454). The lack of EE contributes to the high level of unemployment in South Africa (StatisticsSA, 2017:6). A study of the history of SA shows that gender and racial inequalities, the unequal distribution of resources between different groups and the difference in the female to male entrepreneurial ratio caused women, especially black women, to have virtually no opportunities (Chinomona & Maziriri, 2015:837; Herrington *et al.*, 2017:13,90; Meyer & Landsberg, 2015:3868). The EWP creates an avenue to bridge this gap of inequalities. The focus of the EWP is to support female entrepreneurs in South Africa regardless of race or social status.

Female entrepreneurs still lag behind their male counterparts (Herrington *et al*., 2017:5, 13, 90). Research has shown that female entrepreneurs may require more assistance in self-esteem and confidence than male entrepreneurs (Botha *et al*., 2007:163-164). The lack of EE and training contribute to the restricted entrepreneurship development in South Africa (Botha *et al*., 2007:163-164; Herrington *et al.*, 2017:5, 13, 90). This study aimed to bridge the gap of entrepreneurial training and education by developing an educational framework that will assist entrepreneurs, especially female entrepreneurs, in developing and managing successful businesses.

The bhive EDC on the NWU Vanderbijlpark campus has been training female entrepreneurs with the EWP since 2013. The EWP has not been re-evaluated since its inception in 2013. This study re-evaluates the EWP to ensure it adds optimal value and aligns with the NWU's strategic focus, with a specific focus to create a framework of best practices in EE that can develop future EE modules and programmes.

Although the EWP in its current format does offer quality EE to female entrepreneurs, the programme has limitations in terms of the number of female entrepreneurs that can access the programme due to logistical and capacity constraints. There is a need to develop a framework for EE to enable the bhive EDC to reach more entrepreneurs with high-quality EE programmes.

This study could contribute to the body of knowledge required to create efficient and effective entrepreneurship education programmes in a format that can reach a large number of entrepreneurs by answering the following question: How can the inputs from the participants of the EWP and the study of literature on entrepreneurship education be used to develop a framework to assist in the development and delivery of high-quality entrepreneurial programmes to a larger number of entrepreneurs?

1.5 PURPOSE OF THE STUDY

The primary purpose of this study is to create a framework for EE. The framework is informed by the existing literature on successful EE programmes and the feedback received from the EWP participants who completed the programme. The study specifically delves into the following:

- Evaluate the existing EWP (2013-2020).
- Conduct a systematic literature review (SLR) to establish best practices from other successful entrepreneurship education programmes to enhance EE at the NWU bhive EDC.
- Create a framework to enhance EE at the NWU bhive EDC.

1.6 OBJECTIVES OF THE STUDY

The background study shows that female entrepreneurs experience unique barriers, problems and constraints. The shortage of and access to EE was identified as a significant barrier for all entrepreneurs. Even though the EWP programme provides opportunities for women in the specific areas adjacent to NWU campuses, only a certain number of women can be accommodated within an offering. In order to provide access to more individuals and have a measure of flexibility, the research aims to achieve the following objectives: (i) evaluation of the EWP, and (ii) a review of the literature to design a framework for an EE model to enhance EE at the NWU bhive EDC, that

will ensure that the EWP stay relevant, is aligned with international best practices in terms of programme content as well as the method of delivery and will be sustainable.

1.6.1 Primary objective

The primary objective of this study was to create a framework for EE at the bhive EDC of the NWU that is relevant, aligned with international best practices and sustainable for the bhive EDC.

1.6.2 Secondary objective

In order to achieve the primary objective of the research, the researcher will conduct a SLR to address the following theoretical objectives:

- To explore the current best practices in EE.
- To explore the existing models for entrepreneurial training in developed and underdeveloped countries.
- To explore the fundamental requirements for a sustainable entrepreneurial programme.

The search keywords include entrepreneurship, female/male entrepreneurs, and EE. A librarian with expertise in scientific searching was consulted before the keywords for the SLR were finalised.

The empirical aspect of the research aimed:

- To explore the successes and shortcomings of the existing EWP.
- To explore how a sustainable programme can be developed.
- To explore what additional dimensions could be included in the EE framework to adhere to international best practices.
- To develop the framework can inform future programme development at the bhive.

1.7 RESEARCH DESIGN AND METHODOLOGY

The following section overviews the research design and methodology in this study.

1.7.1 Research paradigm

The model of Burrell and Morgan (1979) was used to explain the theoretical position and assumptions and determine the appropriate worldview for this research. The meta-theoretical assumptions involve the radical humanist paradigm, the radical structuralist paradigm, the

interpretive paradigm and the functionalist paradigm. Figure 1.1 illustrates the four paradigms of social research.

Figure 1.1: The four paradigms of social research

<table>
<tr><td colspan="4">The Sociology of Radical Change</td></tr>
<tr><td rowspan="2">Subjective</td><td>Radical Humanist</td><td>Radical Structuralist</td><td rowspan="2">Objective</td></tr>
<tr><td>Interpretive</td><td>Functionalist</td></tr>
<tr><td colspan="4">The Sociology of Regulation</td></tr>
</table>

Source: Burrell and Morgan (1979:22); Ardalan (2018:3)

The radical humanist paradigm assumes that daily reality is a social construction with the interpretive paradigm. For the radical humanist, this social construction is linked to a pathology of consciousness. It is a situation where the actors become prisoners of the social world they created. The analyses of radical humanism emphasise the alienated mind mode that characterises life in the modern industrial community. In particular, capitalism is a concern for radical humanists in the link of thought and action as a method of transcending alienation (Ardalan, 2018:11). Romani *et al*. (2018:406) conclude that specific overlays and considerable conflict between the radical humanist paradigm and postmodernism.

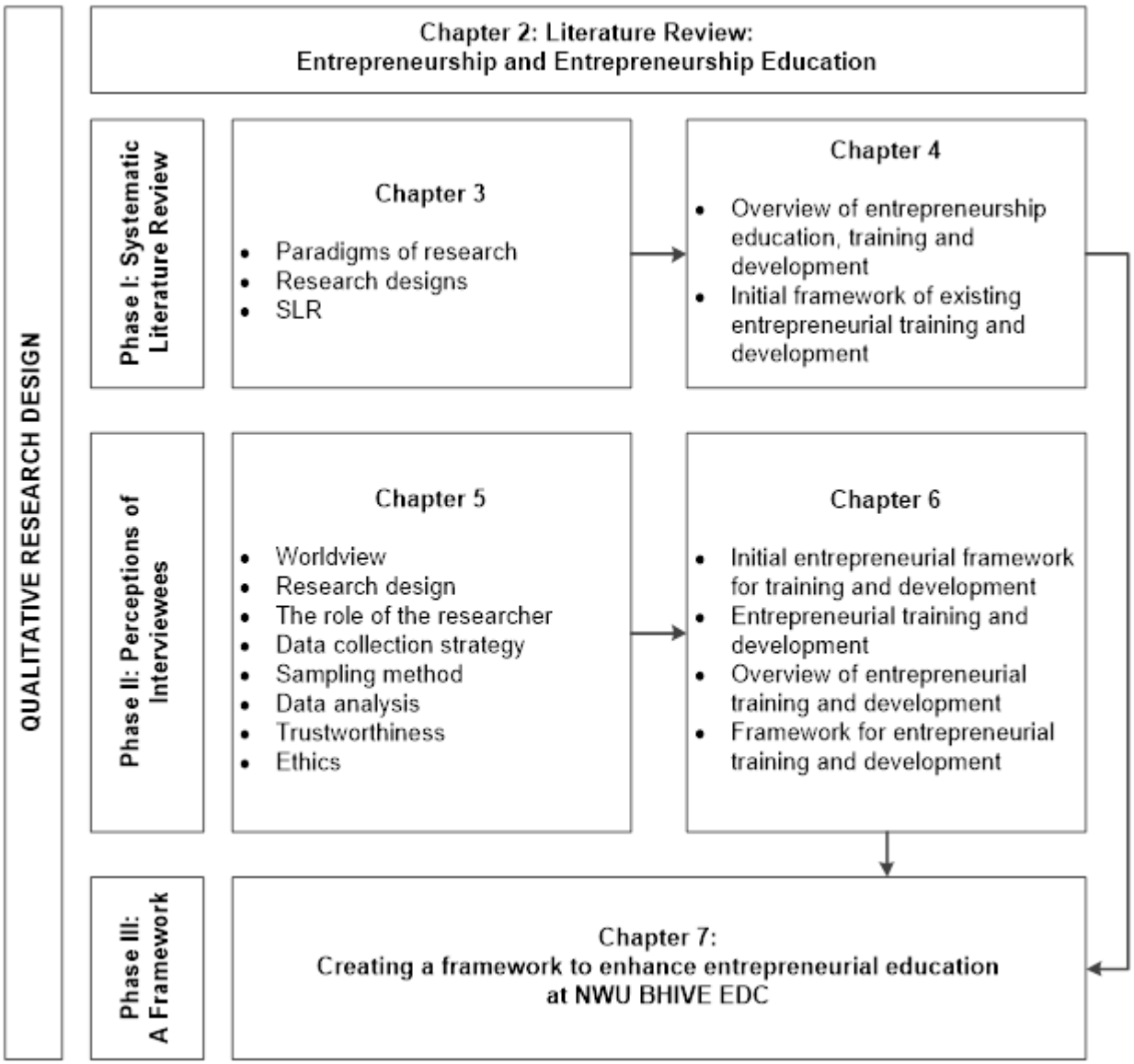
The radical structuralist paradigm exists independent of the mind of humans. In this paradigm, the social world is characterised by intrinsic tensions and contradictions (Ardalan, 2018:13-14). The forces attempt to bring about a radical change in the social system as a whole (Romani *et al.*, 2018:407). In the radical structuralist paradigm, there is also radical social criticism. Still, the criticism is contrary to the radical humanist paradigm because it has a materialistic concept of the social world. In this paradigm, social reality is regarded as a fact. The social world takes on a hard, external existence of its own and is independent of the way it is socially constructed.

The studies relating to the functionalist paradigm rest on the assumption that society has a systematic character and an actual, concrete existence. The social science enterprise is thought to be value-free and objective. This paradigm supports a research process where the scientist is distanced from the subject matter by the precision of the scientific method. The paradigm has a pragmatic orientation; it is concerned with analysing society so that it produces useful information (Ardalan, 2018:4-5; Romani *et al.*, 2018:405-406).

The interpretive paradigm (Figure 1.1) is also known as the naturalistic, humanistic, anti-positivist, constructivist and alternative research paradigm. The interpretive researcher excerpts an empathetic understanding of human experiences and social activities by seeking to comprehend a social phenomenon's beliefs, values and meanings. Interpretivists see all social research as interpretive because they believe that understanding is indivisible from interpretation (Hussain *et al*., 2013:2375).

The research question, *How can the inputs from the participants of the EWP and the study of the literature on EE be used to develop a framework to assist in the development and delivery of high-quality entrepreneurial programmes to a larger number of entrepreneurs?*, which guided that this study forms part of the Interpretivist paradigm. The research question required the researcher to study the participants in their natural setting to make sense of their experiences. A qualitative research design and methodology were identified to best address the subjective nature of the research question. The researcher first conducted: (Phase 1) a SLR to get an in-depth and holistic understanding of the research phenomenon and semi-structured interview questions were used (Phase II) during the individual interviews with the participants of the EWP. The nature of the EWP constitutes a unique bounded system with limited participants, which constitutes a case study (McMillan & Schumacher, 2014:32). Figure 1.2 illustrates the qualitative research design and methodology of the case study, including a SLR.

Figure 1.2: Case study qualitative research design and methodology Phase I, Phase II and Phase III



Source: Own compilation

1.7.2 Qualitative research design

Qualitative research methods are based on constructionism. Constructionism assumes the existence of multiple realities that are socially constructed via collective and individual views or perceptions of the same situation (McMillan & Schumacher, 2014:14; Chesebro & Borisoff, 2007:8; Kothari, 2004:5; Welman et al., 2005:188). The focus of qualitative research is to understand the social experience of the participant's perception. Qualitative researchers use a developing design and review decisions about their data collection strategies during the study

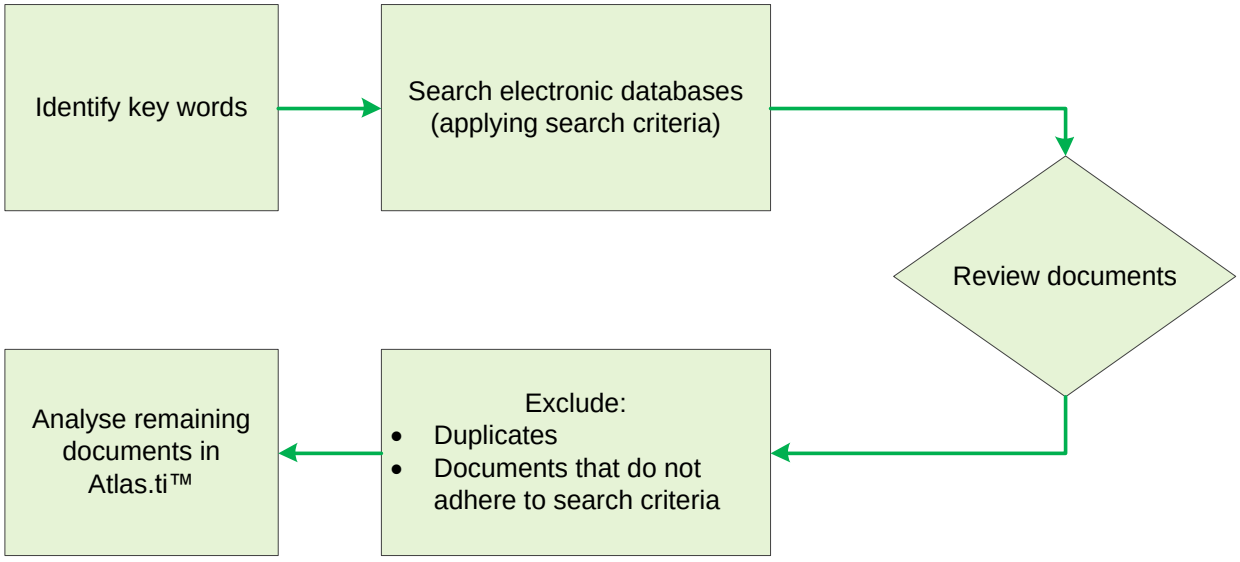
(McMillan & Schumacher, 2014:15). Therefore, the qualitative researcher strives to consider the subjectivity present in the data interpretation and analyses process. Qualitative researchers immerse them in the phenomenon and situation being studied. The skills of the person that collects the data are essential in qualitative research, and the researcher must critically reflect on his role throughout the whole research process. Qualitative researchers believe that human actions are influenced by the surroundings in which they occur (McMillan & Schumacher, 2014:20-21; Chesebro & Borisoff, 2007:8; Kothari, 2004:5; Welman et al., 2005:188). With this study, the qualitative methods were used to determine which parts of the existing programme have added value to the participants, what gaps are currently not addressed by the programme and the participants' preferences about the mode of delivery. The research was rooted in the intepretivist paradigm and commenced with two qualitative data collection processes: (i) an SLR and (ii) individual interviews with females who completed the EWP using in-depth open-ended questions (Figure 1.2).

1.7.2.1 Phase I: Systematic literature review

A SLR and individual in-depth interviews collected qualitative data. The SLR assisted in establishing essential links between existing knowledge and the investigated research problem. Moreover, the SLR aimed to provide additional information on the methodology that was helpful in the study (McMillan & Schumacher, 2014:85; Chesebro & Borisoff, 2007:8; Kothari, 2004:5; Welman et al., 2005:188).

The study of previous literature assisted the researcher to refine the research problem and create more specific research questions. In qualitative studies, the review helps to establish central questions that guide the investigation (McMillan & Schumacher, 2014:85; Chesebro & Borisoff, 2007:8; Kothari, 2004:5; Welman et al., 2005:188). Designing a study is not a linear process of studying the literature, identifying the theoretical framework and then creating the research problem statement. The process is highly interactive. The research question points the researcher to some literature that sends the researcher back to re-look and re-evaluate the phenomenon of interest. In an attempt to shape the problem statement, the researcher will go back to the literature again, and so on (Merriam, 2009:71). The researcher needs to understand previous research and theory in the field of study to determine where the study fits into the current research. The SLR can bring new information to the researchers' attention that may influence their decisions. The SLR is crucial for identifying the study's theoretical framework and finalising the problem statement (Merriam, 2009:76). Figure 1.3 illustrates the SLR process flow.

Figure 1.3: Systematic literature review process flow



Source: Own compilation

The research questions addressed in the SLR were:

- What are the current best practices in EE?
- What are the existing models for entrepreneurial training in developed and underdeveloped countries?

Search process

Primary studies for the review were identified by applying search terms to a host of digital libraries and electronic databases. Digital libraries that apply to entrepreneurship, entrepreneurship education and social sciences were explored, for example, Web of Science, Google Scholar, Scopus, Science Direct and Emerald Insight. The following keywords were used in the search: EE, entrepreneurial skills training, academic entrepreneurial programmes, and approach to EE. A librarian was consulted during the search process. All the searches were documented, and the data are available as part of the trustworthiness of the research (Kitchenham, 2004:9). An author map was developed on Web of Science to determine and affirm that all the leading authors in the field of study were included in the search.

Inclusion and exclusion criteria

Peer-reviewed articles, conference proceedings, reports/research and books on the following topics were included (McMillan & Schumacher, 2014:93):

- Entrepreneurship
- Entrepreneurship Education
- Entrepreneurial skills training
- Academic entrepreneurial programmes

Only journal articles and conference proceedings written between 2000 and 2020 were included. The study of entrepreneurship and entrepreneurship education is relatively new (Bullough *et al*. (2015:250), and the focus of this study is on the latest trends and best practices in entrepreneurship education. The documents/articles should adhere to at least two of the key search terms, types of documents specified and must be between 2000 and 2020. Any documents not adhering to the specific inclusion criteria were excluded. This process is documented and available to review (Kitchenham *et al*., 2009:9).

To ensure the reliability of the data, it is imperative to avoid including numerous publications of the same data in a SLR. Duplicate findings would seriously bias the study findings (Kitchenham, 2004:17). Where duplicate articles occur, only the most complete copy of the article was included.

If the same articles and documents kept appearing during the search process, the researcher ended the search process, indicating that data saturation occurred (Boeije, 2002:393; Merriam, 2009:75). The search process is documented to enable any researcher to repeat this process and obtain similar findings (Merriam, 2009:76).

Quality assessment

The SLR process, the review questions, the inclusion and exclusion criteria, study selection and data extraction need to be quality assessed. By specifying the methods and doing a quality assessment in advance, the risk of carrying bias into the study is reduced (Kitchenham, 2004:9). The critical appraisal of the process can be undertaken with a checklist. The review protocol sets out the methods to be used in the review. The SLR process was evaluated using York University Centre for Review and Dissemination Database of Abstracts of Reviews of Effects criteria. The criteria are based on the following four quality assessment questions (Centre for Reviews and Dissemination, 2009:4,6):

i. Are the inclusion and exclusion criteria of the reviews described and suitable?

ii. Is the literature review search likely to have covered all the relevant and important studies?

iii. Did the reviewer evaluate the validity and quality of the included studies?

iv. Were the primary data sufficiently described?

The above-mentioned quality assessment questions were scored as follows: Yes = 1; Partly = 0.5 and no or unknown = 0. Disagreements between reviewers are discussed until a consensus is reached (Kitchenham *et al.*, 2009:9).

Data collection

McMillan and Schumacher (2014:277) indicate that the quantitative review of the literature can be organised in different ways. The most frequent approach is group studies with similar topics and subtopics. The best method to achieve efficient grouping of studies is to code them while reading them. Index cards can be used to code each article, the index cards are sorted per code, and each code is sorted from more general to the particular mention of the topic or problem. The articles were sorted by date within each topic, with the most recent studies last. Studies with similar findings are summarised (Merriam, 2009:85).

Data for the study that were extracted:

- EE programmes
- Entrepreneurial skills training
- Policies and legislation
- Frameworks

Data analysis

The documents selected through the SLR process (Table 3.6) were analysed using the constant comparative content analysis method in Atlas.ti 9 ™. The constant comparative method of content analyses consists of four stages of analyses: (i) comparing occurrences applicable in each category, (ii) integrating the categories and their properties, (iii) demarcating the theory, and (iv) composing the theory. This method is considered to be a continuous process, with each stage transforming into the next stage over time while previous stages stay in operation. The process continues until the analyses are concluded (Boeije, 2002:392; Glaser, 1965:439). Additionally, against the backdrop of the existing elements of the EWP, a combination of inductive and deductive methods of analysis was also used.

Inductive methods refer to an approach where the empirical world is observed. The researcher reflects on what is taking place in an increasingly more abstract way to move towards theoretical propositions and concepts. We start with a general topic and some vague ideas and later

elaborate and refine them into more detailed concepts (Neuman, 2011:70). Deductive methods start with a theoretical proposition or abstract concept that outlines the logical connections between concepts. The next step is to evaluate the propositions and concepts against concrete evidence. The flow is from ideas, mental pictures or theory towards observable empirical evidence (Neuman, 2011:69). During the analysis process, themes, codes and networks were developed to ascertain: (i) the various existing EE programmes; (ii) the scope of the entrepreneurial programmes; (iii) the content of entrepreneurial programmes; and (iv) policies and legislation that impact EE. Additionally, the researcher determined the gaps/shortcomings in the existing programme to develop the questions for the interviews.

Deviations from protocol

Two independent experts were used for peer-coding and checking before the final findings' final write-up (Neuman, 2003:179;285).

Trustworthiness of data analysis

After executing the qualitative analysis, a peer-coding (colleague or peer who is an expert in the field) was performed. Then a Cohen's kappa was calculated to ensure the trustworthiness of the research. Cohen's kappa is a statistic that measures interrater reliability. Interrater reliability occurs when the data collectors or raters give the same score to the same data item.

The Cohen's kappa ought to be calculated only when:

- one rater rates two trials on each sample, or
- two raters each rate the one trial on each sample.

Cohen's kappa is used when the raters are deliberately chosen, not randomly (Statistic how to, 2014).

1.7.2.2 Phase II: Qualitative data collection - individual interviews

Interviews are conducted in different ways based on the amount of structure required. The interview format for this study was semi-structured interviews with open-ended questions as specific data were required from all the participants. Different types of questions will yield different kinds of information. The questions the researcher ask must be aligned with the specific study. Questions must be worded carefully to extract the desired information (Welman *et al.*, 2005:202-203). The researcher must ensure that what is asked is apparent to the person interviewed. The researcher can ask several different types of questions to stimulate a response from the

interviewee. These include the following: experience and behaviour questions, opinion and value questions, feeling questions, knowledge questions, sensory questions and background or demographic questions (Merriam, 2009:95-97). Experience and behaviour questions focus on what a person does or did, their actions, activities and behaviours. Opinion and value questions are about a person's opinions and beliefs. Feeling questions focus on the emotional dimension of human life, how a person feels about a specific topic, e.g. happy, confident, scared, anxious (Merriam, 2009:95-97). Knowledge questions explore participants' actual, factual knowledge about a topic or situation. Sensory questions are similar to behaviour and experience questions, but try to prompt more specific data about what was heard, seen, touched, etc. Background or demographic questions are part of all interviews. These include questions about age, education, income, among others (Merriam, 2009:95-97). This study focussed on open-ended questions.

Individual interviews were conducted with participants who completed the EWP successfully. The interviews were semi-structured, with open-ended questions. Open-ended questions are used to obtain data on participants' meanings, e.g. how individuals comprehend their world and make sense of the important events in their lives (McMillan & Schumacher, 2014:381). Open-ended questions assist the researcher in developing a deep understanding of the research topic. In order to preserve all the interview data, the interviews were recorded. Data were analysed using the constant comparative content analyses method.

Sample and site selection

The first step in conducting successful interviews and collecting the required data is determining who needs to be interviewed (Merriam, 2009:105). A purposeful sample was used for this phase of the research. With purposeful (purposive) sampling, the researcher selects specific components from the population that will reveal or represent the research topic (McMillan & Schumacher, 2010:138-139). This involves randomly selecting a smaller number of cases (McMillan & Schumacher, 2010:399). The target population is limited to women who have completed the EWP at NWU Vanderbijlpark, Mafikeng and Potchefstroom campuses between 2013 and 2020.

Qualitative data analyses

There are three basic ways to record and transcribe the interview data. The first and least desirable is to write everything down, as much as can be remembered, after the interview process. The problem with this method is that valuable information may not be recorded because the interviewer cannot remember everything (Merriam, 2009:109-110). The second interview option is to take notes during the interview. The challenges are that not everything can be written down,

and at the outset of a study, the researcher is not certain what is important enough to write down. This method is only recommended when recording is not feasible (Merriam, 2009:109-110). The most common approach is to use a digital recorder to record the whole interview. This practice ensures that all the information is preserved for analysis. The interviewer can also listen to the recording to reflect on their interview technique. The risks of this method are that the recording equipment can malfunction and the possible unease of the respondent. Although, most researchers find that the respondent forgets that they are recorded (Merriam, 2009:109-110).

The qualitative interview data were analysed using Creswell's (2009:184) six steps to data analyses as a guide.

Step 1: Organise and prepare

Preparation includes scanning material, typing field notes, sorting the data into different types, and transcribing interviews. A verbatim transcription of the recorded interviews provides the best database for analyses. Although transcription is time-consuming and tedious, the best option is for the researcher/interviewer to do the transcription themselves. It is possible to have a transcriber, but the trade-off is that the transcriber does not have an intimate familiarity with the data or the terminology. So, the transcriber would not be able to fill in the places in the recording that is of poor quality (Merriam, 2009:109-110). The interview transcript format was set up to enable data analyses (Merriam, 2009:109-110).

Step 2: Develop a general sense

The researcher read through all the data to get a general sense of the information and reflect on its overall meaning. It is essential to start making notes and writing down notes from the data analyses (Welman *et al*., 2005:211; Creswell, 2009:184).

Step 3: Code the data

The process of assigning a shorthand designation to various aspects of the data is called coding. The purpose of coding is to enable the researcher to retrieve specific pieces of information easily and quickly (Merriam, 2009:169-174). Tesch (1990:392) identified eight steps for the coding process that Creswell (2009:186) incorporated into Step 3:

- Get a sense of the whole picture by reading all the transcriptions carefully. Jot down ideas that come to mind.
- Select one interview transcript to read through. Identify the underlying meaning and make notes.

- Repeat Step 2 with several interview transcripts. Create a list of all the topics that come to mind.
- Take the list of topics and go back to the data. Abridge the topics as codes and write the codes next to the fitting segments of the text. Evaluate to see if new codes or categories emerge.
- Identify the best descriptive wording for the identified topics and turn them into categories. Group related categories together to reduce the list.
- Take a final decision on the abbreviation for each category and place codes in alphabetical order.
- Assemble the data material per category in one place and execute a pilot analysis.
- Recode existing data if necessary.

Step 4: Describe and identify themes

Generate a description of the people and themes from the categories. The description involves a comprehensive representation of the people, events or places in a setting. Five to seven themes must be created that will be used as the headings in the report of findings (Creswell, 2009:186).

Step 5: Represent Findings

Identify the appropriate method to represent the findings. A popular approach is to use a narrative passage to deliver the findings of the analyses. The passage can include a detailed discussion of all the themes, multiple perspectives from individuals and specific illustrations (Creswell, 2009:186; Welman *et al*., 2005:213-217)

Step 6: Interpret data

The final data analyses step is to interpret the meaning of the data. The researcher must be guided by the question: What were the lessons learned? The researcher can use literature or theories to substantiate his interpretation. The researcher can also suggest new questions that can be researched (Creswell, 2009:186; Welman *et al.*, 2005:213-217). The qualitative data extracted from the individual interviews were analysed using the constant comparative content analysis method in Atlas.ti 9 ™ (§ 1.7.2.1).

Trustworthiness

After executing the qualitative analysis of the data from the individual interviews, peer-coding (colleague or peer who is an expert in the field) was performed. Then a Cohen's kappa was calculated to ensure the trustworthiness of the research (§ 1.7.2.1). A couple of strategies have been developed to ensure trustworthiness or internal validity when conducting interviews. These strategies include triangulation, respondent validation and adequate engagement in data collection (Merriam, 2009:217-219).

The findings from the SLR data analysis and the findings of the individual interviews were triangulated to develop the framework for EE at the bhive EDC of the NWU. Triangulation of data across inquiry techniques can be used as a validity tool. Different strategies may yield different perceptions about the specific topic of interest, and triangulation can improve the credibility of the findings (McMillan & Schumacher, 2010:355; Welman *et al.*, 2005:142-143). Triangulation refers to the practice of using two or three measurement points to shore up a study's internal validity. In this study, the interview data, observations and the systematic literature data were used in the triangulation process (Merriam, 2009:215-216).

Participant validation or member checks is a common strategy to ensure internal validity. The idea is to solicit feedback from the people interviewed. This is the most important way of ruling out potential misinterpretation of the meaning of what the participants have said and their perspective on what is going on. This method is also considered an important method the researcher can use to identify his own biases and misunderstandings of what he observed (Merriam, 2009:216-217). The validation process requires the researcher to return the preliminary analyses to some participants to confirm that the interpretation sounds true. Participants must recognise their experience in the researcher's interpretation (Merriam, 2009:216-217).

Adequate engagement in data collection is the final strategy that was used to ensure the internal validity of the data. The number of people who must be interviewed is always a difficult question as the answer relies on the specific study. The best rule of thumb is that the date and the emerging findings must be saturated. Saturation is when the researcher sees or hears the same things repeatedly and no new information surfaces from the new data collected (Merriam, 2009:219). Adequate time spent collecting data should be linked to decisively looking for deviation in understanding the phenomenon.

1.8 ETHICAL CONSIDERATIONS

All ethical standards of academic research were adhered to during the duration of the study. This entailed the protection of the identities and interests of the participants. Furthermore, information received from participants was handled confidentially at all times. Participants gave informed consent, and the research was explained to them in detail, and no individual was forced to participate in it. The Faculty of Economic Sciences Ethics Committee grant ethical clearances and approvals (Annexure 6). An ethics number was given for the project before the commencement of the data collection phases of the research. The researcher ensured that the interviews were conducted ethically, and the participants signed the informed consent letter (McMillan & Schumacher, 2014:80, 129).

1.9 CONTRIBUTIONS OF THE STUDY

The study of female entrepreneurs is a relatively new academic research topic (Bullough *et al*., 2015:250; De Bruin *et al*., 2006:586; Greene *et al*., 2003:1). This study investigated the effectiveness of the EWP from an entrepreneurial training and education perspective, intending to redesign the programme into a programme with an extended reach. The study is aligned with NWU Strategic Goal 2, to intensify research and innovation and NWU Strategic Goal 3, to integrate and align community engagement with care activities and promote sustainability (NWU, 2017:23-26). The aim is to improve the effectiveness of the EWP and upscale the programme to make it available to a larger audience of aspiring female entrepreneurs.

The contribution of this study is not only limited to improving the effectiveness of the EWP. The study findings can also be used to adapt to how the entrepreneurship modules in the degree programmes are offered to improve access and effectiveness. The study may also lead to adjustments in how the bhive EDC's other programmes, such as the student business competition, are packaged and presented.

The study of entrepreneurship training is a relatively new field of study, particularly for female entrepreneurs, and the current research indicates various learning and teaching methods and objectives used in entrepreneurship training programmes. This study can contribute to identifying best practices in developing and presenting entrepreneurship programmes for specific groups.

1.10 DELIMITATION OF THE STUDY

This study focussed on doing a SLR of entrepreneurship education and training and obtaining primary data from female entrepreneurs in the pre-start-up, start-up and growth phase of business, limited to female entrepreneurs who completed the EWP.

1.11 CHAPTER CLASSIFICATION

Chapter 1: Nature and scope of the study

The chapter provides an overview and background to the research study, including a framework of the problem statement, research objectives and the research methodology used.

Chapter 2: Entrepreneurship and entrepreneurship education: A literature review

Chapter 2 sets the background for the SLR in Chapter 3 by giving an overview of the South African economy, the state of economic activity and the significance of entrepreneurship as a tool to increase economic activity. The chapter focuses on female entrepreneurs' roles, the importance of EE, and the various entrepreneurship education models.

Chapter 3: Phase I: Research design and methodology of a systematic literature review

Chapter 3 discusses the research paradigm, design and methodology. The rationale for the chapter's research design and methodology arrangement is to explain the systematic process before presenting the findings as a literature probe.

Chapter 4: Phase I: Models for entrepreneurial training and development for underdeveloped countries

Chapter 4 reviews the current best practices in entrepreneurship education with a SLR process that runs concurrently with in-depth interviews with the participants of the EWP. The electronic data basis was searched through the use of identified keywords and the application of a search criteria. The identified documents were reviewed using the inclusion and exclusion criteria. The remaining documents were analysed using Atlas.ti 9 ™.

Chapter 5: Phase II: Research design and methodology of a qualitative case study

This chapter focuses on the methodology and qualitative research design pursued by the researcher to interview the EWP participants and the process followed in the data analyses. The

study is based on the interpretive research design paradigm. The research methods used are established on constructionism.

Chapter 6: Phase II: Findings from the qualitative case study

Individual in-depth interviews with the EWP participants were conducted using open-ended questions. The interview data were transcribed and analysed using Atlas.ti 9 ™. Chapter 6 summarise the findings. The findings of the interviews in combination with the findings of the SLR are used to develop a framework for EE.

Chapter 7: Phase III: Creating a framework to enhance entrepreneurial education at the bhive Enterprise Development Centre of the North-West University,

Chapter 7 summarises the SLR findings and the individual in-depth interviews and discusses the proposed framework for EE.

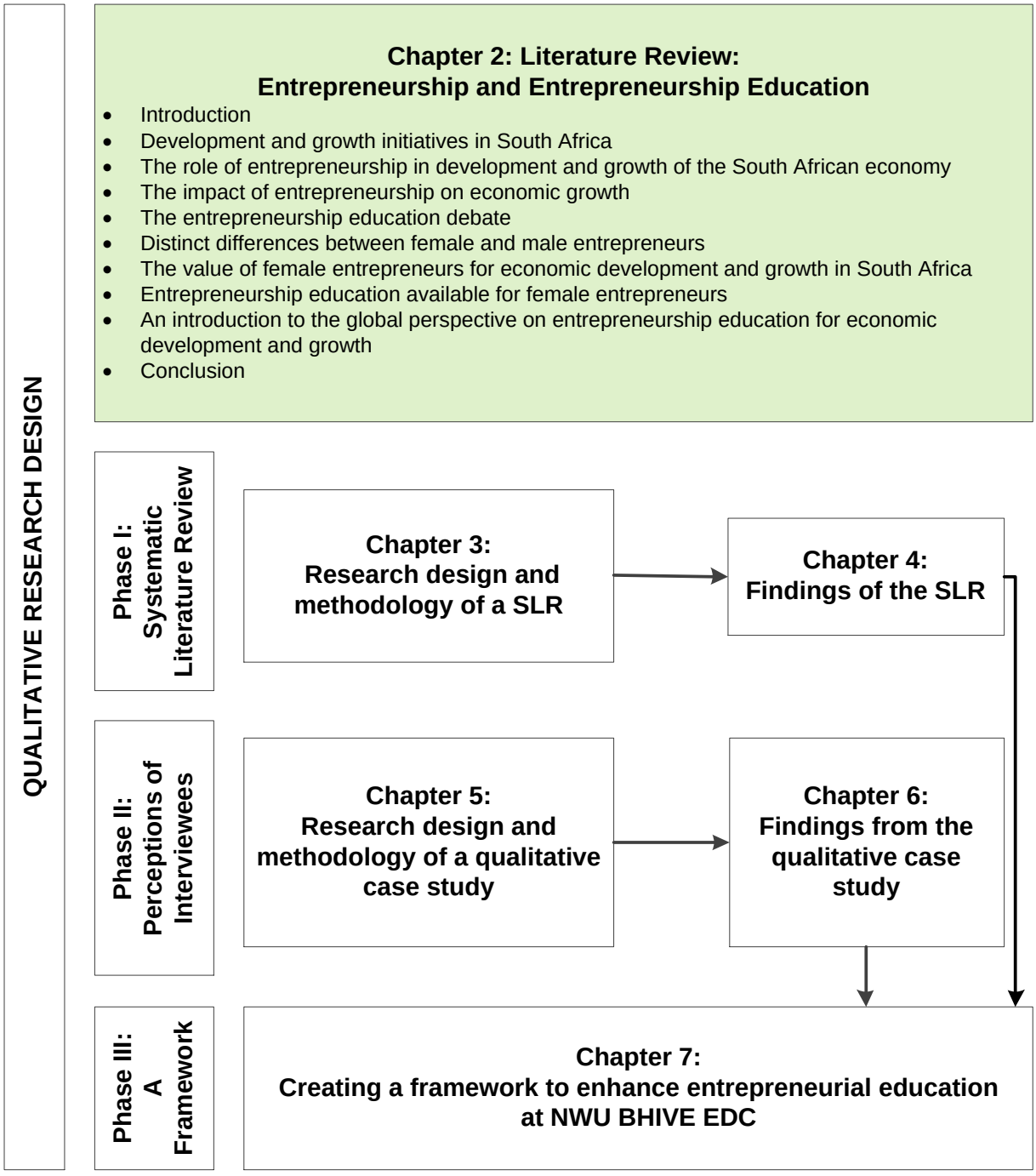
Chapter 8: Conclusions and recommendations for the implementation of the framework for entrepreneurial education

This chapter concludes the research project with a summary of the first six chapters, the contribution of the research, recommendations for future research and a reflection of the research journey.

CHAPTER 2
ENTREPRENEURSHIP AND ENTREPRENEURSHIP EDUCATION: A LITERATURE REVIEW

2.1 INTRODUCTION

Figure 2.1: Literature review



Chapter 2 provides an overview on the key aspects of entrepreneurship and entrepreneurship education, to address the theoretical research objectives to explore existing models of EE, and to set the scene for the SLR in Chapter 3 by discussing the South African economy, the level of economic activity and the importance of entrepreneurship as a tool to increase economic activity. The chapter also focuses (2.2) the influence of development and growth initiatives on the SA economy, (2.3) the definition of entrepreneurship, the impact of TEA on economic and development and growth, (2.5) the entrepreneurship education debate and entrepreneurship programmes, (2.6) the difference between male and female entrepreneurs, (2.7) the value of female entrepreneurs for economic development and growth, (2.8) EE available to female entrepreneurs and (2.9) an introduction to the global perspective on entrepreneurship education for economic development and growth.

2.2 DEVELOPMENT AND GROWTH INITIATIVES IN SOUTH AFRICA

2.2.1 The South African economy

The South African economy currently faces unique challenges with continued low growth over the past five years and an unacceptably high unemployment rate of 29.1% (Stats SA, 2020a). The Covid-19 pandemic of 2020 and the resulted lockdown strategy required to fight this pandemic led to a drop in the gross domestic product (GDP) to -7% for 2020 (Statst SA, 2021a:8). Low economic growth and high unemployment can be turned around by entrepreneurship and entrepreneurial activity (Stephens *et al.*, 2013:779).

2.2.2 Influence of development and growth initiatives on the South African economy

South Africa has challenges on the economic front and lags behind the other BRICS (Brazil, Russia, India, China and SA) and most developed countries (O'Neill, 2021c; Stats SA, 2021a:21). Table 2.1 compares the GDP of the BRICS countries and the United Kingdom and the United States of America (O'Neill, 2021a, 2021b).

Table 2.1: Comparison of GDP growth 2017–2020

Country	2017	2018	2019	Average 2017 to 2019	Ranking	2020	Average 2017 to 2020	Ranking
Brazil	1.32%	1.32%	1.14%	**1.26%**	6	-5.80%	**-0.51%**	5
Russia	1.83%	2.54%	1.34%	**1.90%**	4	-4.12%	**0.40%**	4
India	7.04%	6.12%	4.18%	**5.78%**	2	-10.28%	**1.77%**	2
China	6.95%	6.75%	6.11%	**6.60%**	1	1.85%	**5.42%**	1
SA	1.40%	0.70%	-0.10%	**0.67%**	7	-7.00%	**-1.25%**	6
UK	1.89%	1.34%	1.46%	**1.56%**	5	-9.76%	**-1.27%**	7
USA	2.33%	3.00%	2.16%	**2.50%**	3	-4.27%	**0.81%**	3

Source: Own compilation

The 2017 to 2019 GDP growth numbers average shows South Africa in the last position (7 out of 7). The Covid-19 pandemic impacted some countries more than others, resulting in South Africa moving up to position 6 out of 7 (O'Neill, 2021a, 2021b, 2021c; Stats SA, 2021a:21). Unemployment increased to the highest level since the arrival of democracy at 32.5% (Stats SA, 2021b:1,2 & 15). The expanded unemployment (Unemployed persons under the expanded unemployment definition include persons aged 15-64 who: (1) were not employed in the review period and (2) were available to work but did not seek employment) rate is at 42.6% (Stats SA, 2021b:1,2 & 15). The unemployment numbers paint a sad picture of the current state of the South African economy (Stats SA, 2021b:1,2 & 15).

The GEM classified South Africa as an efficiency-driven economy. The *efficiency-driven* phase is an economy that has become more competitive with more efficient production processes and increased product quality. Other efficiency-driven economies in Africa include Egypt and Morocco, while Asia and Oceania's efficiency-driven economies include China and Malaysia. The efficiency-driven economies in Latin America include Argentina, Brazil and Mexico (Herrington & Kew, 2018:12). The classification of economies by economic development level is adapted from the World Economic Forum (WEF) (Herrington & Kew, 2018:12). South Africa must critically compare current economic policies with other countries with efficiency-driven economies to adopt best practices to develop and grow the South African economy (Herrington & Kew, 2018:12).

2.3 THE ROLE OF ENTREPRENEURSHIP IN DEVELOPMENT AND GROWTH OF THE SOUTH AFRICAN ECONOMY

2.3.1 The definition of entrepreneurship

There are a wide variety of definitions of entrepreneurship. The definitions range from very simple to very complex. An example of a simple definition is the career choice to work for your account while absorbing the risks (Stephan & Uhlaner, 2010:1348). The more complex definition of Seikkula-Laino *et al.* (2010:119) seeks to summarise the essence of the various definitions of entrepreneurship by identifying the following five perspectives of entrepreneurship:

i. Entrepreneurship bears uncertainty, so the entrepreneur attempts to balance market supply and demand (Drucker, 1985:28,29).

ii. New innovations and amalgamations of products, production methods, organisational types and markets (Schumpeter, 1983:7-27).

iii. Kirzner (1973:94) and Scott and Venkataraman (2000:218) consider exploring new opportunities as the essence of entrepreneurship.

iv. Pinchot (1985:19) and Gartner (1988:26) summarised the essence of entrepreneurship as the rise and formation of organisations from a compilation of the definitions of several researchers.

v. The focus of Johannisson and Nilsson (1989:26) is on community and social entrepreneurship.

Entrepreneurship is where an entrepreneur identifies opportunities in the market for new products or services that can be sold at a profit while the entrepreneur carries all the risk and keeps all the rewards (adapted from) (Spinelli & Adams, 2016:77). The current economic situation in South Africa requires a focus on entrepreneurship to grow the economy and create jobs (Herrington & Kew, 2018:17).

2.3.2 The impact of total early stage entrepreneurial activity on economic development and growth

GEM uses entrepreneurial indicators to show the level of entrepreneurial activity in a country. One of the leading indicators is the TEA, which is defined as the percentage of the adult population between 18 and 64 years who are in the process of starting a business or an owner-managed business less than 42 months old (Herrington & Kew, 2018:13).

The GEM report for 2019–2020 compared with other efficiency-driven economies show that South Africa's TEA of 10.8% compared favourably with some African countries like Morocco at 11.4%, while Egypt's lag behind at 6.7%. The TEA of China (Asia and Oceania) is lower than in South Africa at 8.7%. The TEA of Brazil is more than double that of South Africa at 23.3%, Mexico (Latin America) is marginally higher than South Africa at 13% (Bosma *et al.*, 2020:37,88,96,106,136,138,172). The TEA rate does not show the whole picture in South Africa (Bosma *et al.*, 2020:69,72,172). When the established business ownership rate (the established ownership rate is the ratio between total business start-ups and business that is fully established and mature) is added it indicates that the established business ownership rate did not keep track with the increase in the TEA rate over the past five years (Bosma *et al.*, 2020:69,72,172). In 2017 the South Africa TEA was 11%, while the African average was 13.7%. The established business ownership rate for South Africa is 2.2%, and the average for Africa is a much higher 11.9% (Herrington & Kew, 2018:18). These percentages represent a fivefold loss of businesses from those that started to those that reached maturity. This loss is a symptom of a severe challenge to maintaining sustainability (Herrington & Kew, 2018:18). This poor sustainability of start-up businesses in South Africa compared to other countries included in the GEM study emphasises the need for policy intervention directed towards support and practical mentorship for start-up businesses (Herrington & Kew, 2018:18).

New entrepreneurs often start a business without doing the proper market research to determine the need for their product or service or what customers are prepared to pay. The entrepreneur lacks the necessary knowledge, experience, and skills to start and run a business in many cases. Proper entrepreneurial training and support by mentors with practical business experience are required (Herrington & Kew, 2018:24). Suitable support and entrepreneurial training will increase entrepreneurial activity, and an increase in entrepreneurial activity usually has a positive effect on economic growth. Governments include efforts to promote entrepreneurship in their economic development strategies and attract advanced technology firms (Stephens *et al.*, 2013:808). Whether these strategies work effectively in lagging, outlying regions (Stephens *et al.*, 2013:808).

No entrepreneurial activity can take place in isolation. Both the entrepreneurial attitude and perceptions of the community and the individual, play an essential role in creating the entrepreneurial culture of a region or country (Herrington & Kew, 2018:17; Palalic *et al.*, 2017:482; Santos *et al.*, 2017:1264,1266). GEM sees entrepreneurial activity as an ongoing process rather than several independent activities. The adult population questionnaire is, therefore, designed to include individual participation across multiple phases (entrepreneurial intention, potential entrepreneurship, entrepreneurial activity, emerging and new business activity, evolution to

established business, and motivation to quit business) (Herrington & Kew, 2018:17; Palalic *et al.*, 2017:482; Santos *et al.*, 2017:1264, 1266). The entrepreneurial activity process should be seen as a pipeline, where the entrepreneurs in each phase are potentially the source of the people moving on to the next phase (Herrington & Kew, 2018:17). In the 2018 GEM South Africa report, the authors looked at the entrepreneurial behaviour over several years of GEM questionnaires completed with a specific focus on the events of the past 12 months to understand and define the current entrepreneurial landscape (Herrington & Kew, 2018:17). The assessment makes it possible to highlight entrepreneurial activity trends and help policymakers make more informed decisions about the best policies to promote entrepreneurship (Almodóvar-González *et al.*, 2020:15; Doran *et al.*, 2018:4; Herrington & Kew, 2018:17; Santos *et al.*, 2017:1267).

2.3.3 The impact of perceptions on entrepreneurial activity

Policymakers need to keep in mind that entrepreneurs do not work in isolation. They are part of a community, so the positive and negative perceptions the community may have about entrepreneurship can affect the entrepreneurial ambition and even the potential of existing entrepreneurs (Nambiar *et al.*, 2020:73,79,81). The community's perceptions and attitudes play an essential role in creating an entrepreneurial culture as part of the entrepreneurship ecosystem. The GEM assessment includes:

- If people think entrepreneurship is a good career choice.
- Do entrepreneurs enjoy a high status in the community.
- Do entrepreneurs gather substantial quantities of positive media coverage.

The 2018 GEM South Africa report show that the media attention on entrepreneurs in South Africa is higher than the rest of Africa, notwithstanding the fact that the number of people that consider entrepreneurship to be a good career choice is down to 69.4% from 72.6% in 2016 (Herrington & Kew, 2018:17)

Entrepreneurial perceptions differ between countries. In some countries, a failed business's social and legal consequences can be a strong deterrent, reducing the number of potential entrepreneurs. The fear of failure is a strong deterrent for potential entrepreneurs (Nambiar *et al.*, 2020:72). The opportunity discovery and creation theory argue that opportunity creation is the result of entrepreneurs actively searching for new opportunities (Alvarez & Barney, 2007:11). Entrepreneurs weigh the perceived good business opportunity against other opportunities and jobs. The entrepreneurial attributes theory includes the uncertainty and innovation theory.

Uncertainty is regarded as a significant component of entrepreneurship (Filion, 1997:4; Schumpeter, 1983:11). According to Herrington, adults' perceptions of good business opportunities in South Africa increased from 35% to 43.2% between 2016 and 2017, while the South African economy grew by an annualised 3.1% in the last quarter (Herrington & Kew, 2018:18).

The 2017 GEM South Africa report provides a global perspective on South Africa's performance concerning the other 54 economies participating in the adult population survey. The nascent entrepreneurship rate, which is the number of entrepreneurs in the process of starting a business, is also tracked by GEMS South Africa (Herrington & Kew, 2018:24). The South African nascent entrepreneurship rate is 21 out of 54. The new business ownership rate is a shared 33 out of 54. The TEA rate is 27 out of 54, the entrepreneurial employee activity (EEA) is a shared 48 out of 54, the established business ownership rate is 50 out of 54, and the discontinuation of business is a shared 15 out of 54 (Herrington & Kew, 2018:22).

2.3.4 Entrepreneurship and business management

There is a difference between an entrepreneur and a business manager. An entrepreneur is defined as a person who has the expertise to seize business opportunities by using better or more creative ways to deliver goods or services (Ambrish, 2014:225). Mokaya *et al.* (2012:133) did a comparative study on the more modern definitions of entrepreneurship compared to the traditional definitions. They concluded that there are numerous definitions of entrepreneurship. However, when studied in isolation, none presents a complete explanation of entrepreneurship. Mokaya *et al.* (2012:133) argue that the entrepreneurship process involves scanning the environment, identifying and evaluating new opportunities, positioning resources to implement new opportunities, and establishing and managing a growing, profit-making business. Entrepreneurs regard growth as an essential component of running a successful business, and profit-making incrementally is an essential gauge of growth (Diandra & Azmy, 2020:237-239; Mokaya *et al.*, 2012:133). Some leadership theories like "think manager". support that leadership is reserved for men. The phrase "think like a man" is at the essence of discrimination against female entrepreneurs (Schein, 2001:683). It holds the view that females and female entrepreneurs cannot hold leadership positions (UNFPA.,2005). The GEM reports interpretation of entrepreneurship is quite broad. The following sections are included:

- The percentage of adults actively involved in founding or running a new business in each economy (TEA).

- The percentage of adults that own and manage an existing established business. The sector distribution of entrepreneurship.
- The percentage of adults involved in EEA as part of their function in an existing organisation (Intrapreneurs).

The different sections of entrepreneurial activity mentioned above each contribute to a sustainable economy in their way. Small and medium-sized businesses (businesses with an owner-manager) frequently form the backbone of society and the economy (Diandra & Azmy, 2020:237-239). Intrapreneurs contribute to innovation in large corporations, while the dynamics of start-ups mirror the potential of creative destruction (new businesses challenge and replace existing obsolete ones) (Bosma *et al.*, 2020:36,42).

A business manager is an entrepreneur, institution, or company employee to manage the company's business affairs. The manager is employed to execute the entrepreneur's business plan and comply with corporate governance (own definition) (Foss & Klein, 2014:74-75,79; Guo & Zhao, 2013:448,452; Portovaras *et al.*, 2020:688). Entrepreneurs and business managers have an important role to play in the entrepreneurial process and the impact of entrepreneurship on economic development and growth.

2.4 THE IMPACT OF ENTREPRENEURSHIP ON ECONOMIC GROWTH

Increased entrepreneurial activity has a positive effect on economic growth, and however, the relationship between entrepreneurial activity and economic growth is complex and not linear (Stam & van Stel, 2009:8-9). The empirical analyses by Stam and van Stel (2009:8-9) submit that entrepreneurship does not impact economic growth in low-income countries. In contrast to high-income countries, both general entrepreneurship and growth-orientated entrepreneurship contribute starkly to macro-economic growth (Stam & van Stel, 2009:8). Research by Naudé (2009:8,11) and Glaeser *et al.* (2015:518) explicitly demonstrate that entrepreneurship contributes to economic development by nurturing growth and structural change while acting as an instrument that people can use to break the restraints of inequality and poverty.

Governments need to create an optimal entrepreneur-friendly environment for entrepreneurial activity to increase and create economic growth. Entrepreneurs will only create new business ventures if the venture's advantages outweigh the costs arising from institutional barriers (Cumming *et al.,* 2014:175). Creating an entrepreneur-friendly environment on its own may not be enough to increase entrepreneurial activity, and entrepreneurs require support, education and training to be successful.

2.5 THE ENTREPRENEURSHIP EDUCATION DEBATE

Researchers agree that entrepreneurship can be taught (Balan & Metcalfe, 2012:372; Fayolle & Gailly, 2012:571-580; Metcalfe, 2013:125-126). However, when looking at the content and method of presenting entrepreneurship training, researchers have a variety of opinions. There is a considerable amount of debate about the most appropriate way of defining the efficiency of entrepreneurship programmes (Balan & Metcalfe, 2012:372; Fayolle & Gailly, 2012:571-580; Metcalfe, 2013:125-126). Most researchers believe that at least some fundamentals associated with entrepreneurship can be enhanced and developed with the help of entrepreneurship education and training (Henry *et al.*, 2005a:164; Zeng & Honig, 2016:239-241; Zheng *et al.*, 2009:1-4). An important topic that has arisen from the debate is the disparity between the science and art of entrepreneurship. The science of entrepreneurship can be taught, but not the art (Henry *et al.*, 2005a:164; Zheng *et al.*, 2009:1). Lindberg *et al.* (2017:775) argue that the art of entrepreneurship can be taught as long as creative and innovative thinking is included in the course curriculum. It appears that there is no standard methodological approach for the evaluation.

Furthermore, there are no standard evaluation criteria to determine the programme's effectiveness. The above complicates the debate around whether entrepreneurship can be learned and the best methods (Henry *et al.*, 2005a:159,164; Lindberg *et al.*, 2017:775). The learning requirements of entrepreneurs vary based on the stage of development (awareness, pre-start-up, start-up, growth or maturity) (Henry *et al.*, 2005a:162; 2005b:101; Lindberg *et al.*, 2017:769,772). The study by Henry *et al.* (2005b:103) shows that the most common aims of entrepreneurial development programmes include stimulation of entrepreneurial drive, skills, and talent, changing attitudes towards entrepreneurship, and addressing risk averseness (Henry *et al.*, 2005b:103; Zheng *et al.*, 2009:1-2).

2.5.1 Entrepreneurship programmes

Most entrepreneurship programmes teach small business management skills rather than entrepreneurship. This includes business planning, management, financial management, marketing and entrepreneurship (Henry *et al.*, 2005b:104). Entrepreneurs require the following skills: technical (communication, organisational and technical management), business management (accounting skills, marketing skills, planning and decision-making) and personal skills (risk-taking, innovation and inner control) (Henry *et al.*, 2005b:104; Hisrich & Peters, 2002:20).

Henry *et al.* (2005b:104) and Zheng *et al.* (2009:2-3) identified several researchers that maintain that entrepreneurial training programmes have limited training value. The best way to learn is through their own experience. A study of an international action learning programme in seven countries shows that all the participants that engaged in action learning consistently reported outcomes that propelled their learning ahead of those that did not engage in action learning events (Mueller *et al.*, 2005:22). The accent that many entrepreneurial training programmes place on the need to produce a business plan must be reconsidered as the business plan is of more use to the bank manager than to the entrepreneur as it does not reflect the abilities of the entrepreneur to successfully start and run a business (Henry *et al.*, 2005b:104). The fundamental role of entrepreneurial training is to help entrepreneurs make better decisions and perform better if they choose to, not to pep-talk people into starting a business (Davidsson, 2015:2).

Traditional education methods (theory and didactic approach) are not suitable for entrepreneurial training. A more practically focussed and activity-based methodology for entrepreneurial training is more appropriate (Henry *et al.*, 2005b:107; Zheng *et al.*, 2009:2-3). The best way to gain knowledge of entrepreneurship is to combine formal educational activities and practical experience (Henry *et al.*, 2005b:107; Zheng *et al.*, 2009:2-4). Schools and universities play an essential role in developing the essence of entrepreneurship training as both are ideally positioned to influence entrepreneurial attributes from a young age (Henry *et al.*, 2005a:164; Lindberg *et al.*, 2017:769-772). Davidson's (2017:3) research supports the growing evidence that programmes considered worth the investment are grounded in sound research.

2.5.2 Entrepreneurship teaching methods

This study by Balan and Metcalfe (2012:372-373) assessed six entrepreneurial teaching methods implemented in two different undergraduate entrepreneurship courses. The six methods are:

- **Team-based learning**

  Students must study material before the teaching session. At the onset of the class, the students must complete an individual multiple-choice test on the studied content. After completion, the students take the same test in teams using scratch and win cards for instant feedback (Balan & Metcalfe, 2012:372).

- **One business idea for each class**

  The whole class, divided into teams, gets a single business idea to address instead of identifying their own business idea. This method is grounded on Michaelsen and Sweet'

(2008:8) proposition that group learning is improved when students work on the same problem (Balan & Metcalfe, 2012:372).

- **Poster plan and presentation**

  Teams of four to six students submit their project report as two A3 size posters instead of a more traditional word document. Reports are displayed on the lecture room walls, and each team must give a short verbal presentation of their report. Teams have the opportunity to inspect the work of all the teams and ask questions (Balan & Metcalfe, 2012:372).

- **Entrepreneurship survey**

  Students must complete an online questionnaire before the commencement of the entrepreneurial course. The questionnaire includes questions on all the entrepreneurial topics relevant to the course. Each student receives a detailed report and the class average and standard deviation for each item. Teaching included a reference to the questionnaire questions and the responses received. The rationale is that students understand theories and models far better when applied to themselves in context to their peers (Balan & Metcalfe, 2012:372-373).

- **Small business awards**

  Students had to volunteer to assist in developing an application document for a small business award programme. Students worked in teams of two people, which gave students insight into the management and operation of small businesses (Balan & Metcalfe, 2012:373).

- **Entrepreneur presentations**

  Students attended lunchtime seminars by practising entrepreneurs who shared their entrepreneurial journey, challenges and success stories (Balan & Metcalfe, 2012:373).

Metcalfe (2013:272-273) and Fayolle and Gailly (2012:571-580) concluded that the bulk of entrepreneurship is business, and business can be taught. Founding a start-up requires a different skill set, and this skill set consists of the following three aspects: ambition, creativity and selling skills (Fayolle & Gailly, 2012:571-580; Metcalfe, 2013:125-126). Jesar (2015:37) believes that entrepreneurship education is changing to adapt to the needs of modern entrepreneurs and to meet the skills and know-how required in the current labour market. Currently, entrepreneurship education is a mixture of old and new, but the movement is definitely towards practical hands-on learning (Fayolle & Gailly, 2012; Jesar, 2015:37; Lindberg *et al.*, 2017:769-772).

The findings of the GEM reports and other research indicate that more people can become entrepreneurs by implementing enabling policy changes by governments and making changes in how entrepreneurial training is conducted in terms of content and method (Bosma *et al.*, 2020:14; Zheng *et al.*, 2009:1-4). However, the distinct differences between female and male entrepreneurs should be considered when entrepreneurial training is executed.

2.6 DISTINCT DIFFERENCES BETWEEN FEMALE AND MALE ENTREPRENEURS

Research conducted by researchers like Van Vuuren and Groenewald (2007:276) and Bosma *et al.* (2020:17) confirmed that not all entrepreneurs are equal. Although entrepreneurs face some common challenges such as: (1) limited access to start-up capital, (2) government regulations, (3) lack of education, (4) absence of business knowledge and (5) shortage of support, female entrepreneurs face additional challenges, for example: (1) lower education levels, (2) fewer business-orientated networks, (2) lack of capital and assets, (5) family responsibilities, (6) lack of confidence and (7) lack of female role models (Herrington & Kew, 2018:27; Kelley *et al.*, 2017:23,24,27,34; Nambiar *et al.*, 2020:71-73; Van Vuuren & Groenewald, 2007:270,272,278). The gender theories include the social role theory. The social role theory proposes society ascribe specific roles to specific genders and that men and women act in accordance with the assigned roles (Balachandra et al., 2013:3). The typical perceived role of women as the “caretaker” place female entrepreneurs at a disadvantage (Gupta *et al*.,2012:773; Balachandra et al., 2013:3). The entrepreneurial attributes theories include the social capital theory, the relational and collaborative theory and expectancy motivation theory. The social capital theory confirms the importance of belonging to a network. The theory contends that individuals will receive support from the members of the network they belong to (Bourdieu, 1986:248-251; Bowey & Easton, 2007:171). The relational theory and collaborative theory propose that female entrepreneurs engage with staff and their customers with a collaborative and more participative approach (Moore et al., 2011:221; Reavley & Lituchy, 2008:272).

Notwithstanding, that female entrepreneurs face additional challenges, they have an important role in economic development and growth (Nambiar *et al.*, 2020:71-73; Van Vuuren & Groenewald, 2007:270,272,278).

2.7 THE VALUE OF FEMALE ENTREPRENEURS FOR ECONOMIC DEVELOPMENT AND GROWTH IN SOUTH AFRICA

In recent years’ women are playing a more vital and more robust role in the economy. However, some economies like Egypt, Norway, Japan and Pakistan, still have two male entrepreneurs for each female entrepreneur (Bosma *et al.*, 2020:17). In South Africa, the TEA female to male rate

in Gauteng is 0.59, the Western Cape is 0.58, and the rest of South Africa's provinces are 0.78 (Herrington & Kew, 2018:54). The 2020 GEM report state that in 36 economies, more women than men agree that they started a business because they wanted to make a difference in the world, while men in general start a business to build significant wealth or high income (Bosma *et al.*, 2020:48; Palalic *et al.*, 2017:484, 489). Female entrepreneurs tend to employ more people in their businesses, positively impacting economic growth (Herrington & Kew, 2018:54; Nambiar *et al.*, 2020:72-73). The expectancy motivation theory demonstrates that when entrepreneurs are motivated to start a business they expect that the business will show profit that will result in financial rewards and flexibility (Manolova et al., 2008:69).

It is important to focus on entrepreneurship education as a useful solution to increase entrepreneurial activity in general, specifically to assist female entrepreneurs in starting and growing successful businesses (Brixiová *et al.*, 2020:369,373,377; Herrington & Kew, 2018:42,71,72).

2.8 ENTREPRENEURSHIP EDUCATION AVAILABLE FOR FEMALE ENTREPRENEURS

The research and focus on female entrepreneurs have increased substantially over the past 20 years (Babson College, 2021:1; Brush & Green, 2021:4; Brush *et al.*, 2020:9-17). International organisations like the International Labour Office (ILO) have developed EE programmes focussed on female entrepreneurs in developing countries, for example, the Gender and Enterprise Together (GET) Ahead business training programme for women entrepreneurs in Kenya (Strangl *et al.*, 2015:1-27). The World Bank Group (WBG) Jobs Group published a working paper in 2018 on "Female entrepreneurs: How and Why are they different?" (Carranza *et al.*, 2015:1-28). The study looks at the difference in outcomes of female entrepreneurs versus male entrepreneurs and what drives the differences in performance (Carranza *et al.*, 2015:1-28). The researchers also identify possible policies and policy changes that can assist in levelling the playing field between male and female entrepreneurs (Carranza *et al.*, 2015:29-33). The study highlights the heterogeneity among female entrepreneurs and confirms that a one-size-fits-all approach to policy issues and EE cannot work (Carranza *et al.*, 2015:3,32).

Tertiary education institutions have a variety of initiatives that focus on women entrepreneurs. Babson College has the DIANA Project. The DIANA Project engages in research activities, scholarship and forums that focus on women entrepreneurs and their growth (Brush & Green, 2021:7-9). The DIANA Project was initiated by Candida Brush, Nancy Cater, Patricia Greene and Elizabeth Gatewood in 1999 (Babson College, 2021). The DIANA Project's initial goal was to study female entrepreneurship in the United States, female-led businesses. At the time, female-

run businesses were smaller than those run by male entrepreneurs in terms of revenues, size and the number of employees (Babson College, 2021; Brush *et al.*, 2020:9-14). DIANA Project launched a multi-method research effort to find the answer to the question: "Why do women-owned businesses remain smaller than those of their male counterparts?" (Brush *et al.*, 2020:9-14). The findings of these research initiatives raised awareness of the challenges women entrepreneurs face (Brush *et al.*, 2020:9-14). In 2003 the DIANA Project partnered with the Entrepreneurship and Small Business Research Institute in Sweden (ESBRI) to develop a shared international research agenda (Brush *et al.*, 2020:9-14). The purpose of creating the DIANA international collaboration was two-fold: (1) the creation of a platform to develop, conduct and share the global research agenda and (2) the creation of an international community of scholars devoted to answering questions about female entrepreneurs and growth-orientated businesses (Brush *et al.*, 2020:9-14).

The following programmes are examples of current entrepreneurial training initiatives for female entrepreneurs:

i. Udemy offer an entrepreneurship course for female entrepreneurs called "Women, Start your own business! Entrepreneurship Course!" (Udemy, 2021). The course runs for 60 days. According to Udemy (2021), the biggest mistake female entrepreneurs make when starting their business is that they do not put strategies and systems in place to automate business processes (Udemy, 2021). The course includes the following topics: (1) Initiate clear strategies for your business, (2) Evaluate your value, (3) Develop your brand, (4) Create SMART objectives to reach monthly and annual profit milestones. Participants also receive a step-by-step workbook that involves a sixty-day plan that includes business research, submitting documents, opening a business account, and establishing and growing your first business credit line. This course is designed for aspiring small business owners, beginners, and businesses that require a restart (Udemy, 2021).

ii. Tonex offers a two-day entrepreneurship training course for female entrepreneurs (Tonex, 2021). This programme covers the main structures and concepts of female entrepreneurship from a gender point of view, including various policies and factors affecting the entrepreneurship process (Tonex, 2021). The entrepreneurship training programme will help the participants identify various elements that impact the gender gap in entrepreneurship and tips, methods, and strategies that can assist in overcoming the gender gap (Tonex, 2021). According to Tonex female entrepreneurs need this entrepreneurship training as (Tonex, 2021):

- The interactive, hands-on seminar lets the participants meet other female entrepreneurs on the same path.
- The training will improve the participants' understanding of gender barriers in entrepreneurship.
- Participants get individual coaching to develop a business plan based on their mission, view, goals, and culture.

The target audience for this women entrepreneurship training is (1) Female professionals interested in starting a business, (2) Young female founders, (3) Young female leaders, (4) Policy makers in the local or national government, (5) Chambers of commerce, (6) Business associations (Tonex, 2021).

iii. Women Business Enterprise Center (WBEC) is supported by the U.S. small business administration and works with small businesses in Pittsburgh and Philadelphia (WBEC, 2021). The WBEC have three main types of entrepreneurial training: (1) Face-to-face business education and training workshops, (2) online business training workshops that run over six weeks and cover most EE topics and (3) individual business counselling (WBEC, 2021).

iv. Women's Enterprise Centre (WEC) Canada is a non-profit organisation in British Columbia dedicated to helping women start, lead and grow their businesses (WEC, 2021). Their business skills training features:

   i. Practical, valid skills that are fully relevant to the profitable operation of a small business.
   ii. A selection of workshop topics that is critical to business success.
   iii. The material is developed by industry experts and includes real-life case studies, inspirational spotlights and informative panellists.
   iv. Diverse learning approaches include webinars, live workshops and self-directed learning.

v. Academy for women entrepreneurs offers EMPOWER training to female entrepreneurs. EMPOWER training is a multidisciplinary programme available on a monthly subscription model (Academy for women entrepreneurs, 2021). Three subscription models are offered: (1) EMPOWER Lite, (2) Premium membership and (3) mastermind membership. EMPOWER Lite membership provides access to 50+ training modules and community channels, premium members also get access to all online webinars and workshops, and mastermind gets access to group coaching (Academy for women entrepreneurs, 2021). The

training and coaching are focussed around the five power hubs of entrepreneurship: (1) Personal development, (2) planning, (3) people, (4) promotion and (5) profit (Academy for Women Entrepreneurs, 2021).

vi. Goldman Sachs is an international banking institution. The Goldman Sachs 10 000 Women project is a community engagement project that provides women entrepreneurs worldwide with management and business education, networking, mentoring and access to capital. The programme was developed in partnership with the University of Leeds and academic input from Babson College (Goldman Sachs, 2021). The digital programme is free on the Coursera.org platform (Coursera, 2021). The programme consists of ten courses that cover all aspects of running a business. The courses include interactive activities and practical education from entrepreneurship experts. Female entrepreneurs can take any combination of courses (Coursera, 2021).

vii. The Gordon Institute of Business Science (GIBS), Entrepreneurship Development Academy (EDA), a unit within GIBS focussed on supporting entrepreneurs by making business education accessible to start-up businesses, micro, small business owners and social entrepreneurs. The focus is on the marginalised and underserved entrepreneurs (GIBS, 2021).

viii. The bhive EDC at the NWU offer a six-month training programme to female entrepreneurs (NWU, 2021). The EWP focus on female entrepreneurs that have an idea and want to start a business and female entrepreneurs that recently started a business. The programme has five sections: (1) From idea to concept, (2) validating the market, (3) establishing a market presence, (4) assessing financial feasibility and (5) navigating the environment using your business model (NWU, 2021).

2.9 AN INTRODUCTION TO THE GLOBAL PERSPECTIVE ON ENTREPRENEURSHIP EDUCATION FOR ECONOMIC DEVELOPMENT AND GROWTH

This section overviews some trends in entrepreneurship education and entrepreneurship education models. Although some entrepreneurship education models still have a general approach, other researchers advocate a more focussed approach with models for specific groups and purposes (Arthur & Adom, 2020:722; Fayolle *et al.*, 2020:1,3-4,8; Henry & Treanor, 2012:493).

2.9.1 Definition of entrepreneurship education frameworks and models

Entrepreneurship education framework or model can be defined as follows: All the EE and training activities, inside and outside the educational system that attempt to develop the participant's entrepreneurial intention to perform entrepreneurial behaviours or elements that affect that intention, for example, the desirability of entrepreneurial activity, entrepreneurial knowledge or entrepreneurial feasibility. This includes the development of capacities, knowledge, attitude and personal qualities, the pursuit of opportunities that identify with entrepreneurship. Entrepreneurship education models seek the effective creation, growth or optimising of an enterprise and the subsequent dynamism (Fayolle & Gailly, 2012:570-576; Li, 2011:1-4; Liñán, 2004:1-12)

2.9.2 Trends in entrepreneurship education

EE is moving away from traditional classroom teaching. The focus is on more specialised models and training initiatives (Arthur & Adom, 2020:724; Fayolle *et al.*, 2020:8; Henry & Treanor, 2012:487). To demonstrate some of the new approaches to entrepreneurship education, the researcher grouped some of the models and methods into seven groups:

2.9.2.1 The outside-in approach

Quach *et al.* (2020:117) designed an innovative methodology to develop, implement and evaluate an entrepreneurship education intervention. Quach *et al.* (2020:117) used the outside-in marketing approach as the foundation for developing an entrepreneurship education model for a particular audience. The entrepreneurship education model was designed with effective, cognitive and behavioural objectives in mind instead of the general purpose of knowledge enhancement (Quach *et al.*, 2020:117). This model focuses on how knowledge is used (behavioural) instead of what is taught (instructive knowledge). With this approach, the entrepreneurship education model tackles the need for more relevance, especially concerning context, audience and objectives (Quach *et al.*, 2020:117).

2.9.2.2 Use of the business model canvas, business plan, lean start-up and conceptual models

Entrepreneurship education at higher education institutions is on the political agenda and a top priority in countries worldwide (Blesia *et al.*, 2019:54). Blesia *et al.* (2019:55) look at developing an entrepreneurship education model at the University of Cenderawasih in Indonesia. This

entrepreneurship education model uses a business plan as part of the learning outcomes (Blesia *et al.*, 2019:55). The model comprises two phases:

Phase 1: Identification and administration of the programme.

Phase 2: Implementation phase as students engage in entrepreneurial activities.

Bell and Bell (2016:1a) studied the entrepreneurship education model in a competition format at a UK University where students had to develop an entrepreneurial idea and then had to design and present a business plan. The competition prize consisted of start-up funding. The model uses active and experiential learning strategies instead of traditional lecturer led passive learning (Bell & Bell, 2016:3).

Not all researchers support using a business plan in new venture creation (Bell & Bell, 2016:5; Zeng & Honig, 2016:239). The BMC and lean start-up are supported as more modern alternatives (Zeng & Honig, 2016:239).

Osterwalder and Pigneur (2010:15) created the BMC, which can be used as a computer-based or paper-based framework that simplifies the process of communicating, improving or devising an innovative business model (Lima & Baudier, 2017:160). Since its launch in 2010, the BMC has been widely used in start-ups, large companies and entrepreneurship programmes. The BMC is commonly adopted as an academic framework used for business model innovation among practitioners and students (Lima & Baudier, 2017:162). The BMC use nine building blocks. The value proposition is the block at the centre of the canvas. The right side of the canvas including the value proposition focus on capturing and delivering value. The other four building blocks on the right are channels, customer segments, customer relations and revenue streams (Lima & Baudier, 2017:162). The left side of the canvas focuses on value creation using internal and external processes. These blocks are key resources, key activities, key partnerships and costs (Lima & Baudier, 2017:162).

Ries (2011:6-7) recognised the weaknesses of using a business plan and he developed the lean start-up model (Ries, 2011:6-7; Zeng & Honig, 2016:239). His lean definition of a start-up is “a human institution designed to create a new service or product under conditions of extreme uncertainty” (Ries, 2011:8; Zeng & Honig, 2016:239). The lean start-up model ignores the traditional elaborate planning and long-term product development. Instead, lean start-ups focus on validated testing, fast customer feedback and iterative product design (Ries, 2011:18; Zeng & Honig, 2016:240).

Zeng and Honig (2016:242) developed a set of conceptual entrepreneurship education models anchored in the learning theory concerning how entrepreneurship should be taught. Their models are designed on techniques of entrepreneurial pedagogy like experiential learning (Zeng & Honig, 2016:242). Zeng and Honig (2016:242-243) argue that entrepreneurship education should consider the previous entrepreneurial experience of students when developing the entrepreneurship education model.

- Model 1: Students without any entrepreneurship experience.
- Model 2: Students with entrepreneurship experience.
- Model 3: Students who are currently running their own business.

2.9.2.3 The Camp and LAB studio model

Li (2010:2) argues that the Camp Model of EE can be added to the list of teaching methods used in the entrepreneurship study field. The Camp Model can enhance creativity and help start-ups get close to real entrepreneurs (Li, 2010:2). The Camp Model takes students away from their normal school environment to another location where they can interact with students from other disciplines and/or schools or external people. The teaching method also changes from transferring established knowledge to a problem-based and future-orientated knowledge creation focus, with teachers acting as facilitators (Li, 2010:2).

The underlying pedagogies relevant to the Camp Model include problem-based learning, action learning and future-orientated learning (Li, 2010:3). The organisational principles include a neutral location, cross-disciplinary groups, the involvement of outside experts from private companies and well-defined roles for the camp leader, facilitators and participants (Li, 2010:3).

Heikkinen and Stevenson (2016:155) propose the LAB studio model as an entrepreneurship education model at the higher education level that integrates industry needs and workplace context into entrepreneurship competencies. The LAB studio is similar to a pre-incubator. The LAB studio can be described as a multidisciplinary education model to deliver self-directive teams, skilled professionals and new company start-ups within a specific industry (Heikkinen & Stevenson, 2016:159). The use of studios for educational purposes can be traced back to the 17th century. Currently, the use of studios in schools of architecture, design and art is common (Heikkinen & Stevenson, 2016:155). The studio can also be applied to education in other technical fields (Heikkinen & Stevenson, 2016:155).

2.9.2.4 The art and science of entrepreneurship

Lindberg *et al.* (2017:775) stress the importance of also teaching the art of entrepreneurship, not just the science. The art of entrepreneurship refers to the creative and innovative thinking required when starting a business (Lindberg *et al.*, 2017:775).

2.9.2.5 Experiential learning, learning by doing, active learning, learning, project-based training and teamwork

A large number of the researchers whose entrepreneurship education models were reviewed for this chapter included experiential learning, active learning and learning by doing in their models (Balan *et al.*, 2015:644; Bell, 2020:3-4,10; Fayolle *et al.*, 2020:3,6; Li, 2011:3-4). Li (2011:3) proposes that entrepreneurship teaching must have a phased process with the experiential learning model in the background, allowing active experimentation, reflective observation and abstract conceptualisation that leads to concrete personal experiences. Balan *et al.* (2015:641) use experiential learning as part of the pre-learning required for the flipped classroom approach. Bell (2020:3,8,10) considers experiential learning effective in entrepreneurship education, especially when combined with reflection and learning by doing. This is confirmed by Blesia *et al.* (2019:55,58) and Fayolle *et al.* (2020:3,6), who propose that active learning, learning by doing and experiential learning should be the key pedagogical approaches in classrooms.

The importance of teamwork is highlighted in quite a few of the studies. Teamwork is considered an essential part of collaborative learning (Balan *et al.*, 2015:641; Blesia *et al.*, 2019:61,65). Teambuilding is important to ensure that team members work together in harmony to ensure successful teamwork (Blesia *et al.*, 2019:61,65).

EE models with a more practical focus, such as Makes Spaces, lean towards project-based learning (Sun, 2020:3-4). Students choose projects based on their interests, and the teachers act as facilitators that provide appropriate guidance. Makes Spaces combine project-based learning with multidisciplinary teams (Sun, 2020:3-4)

2.9.2.6 The use of successful role models

The study by Boldureanu *et al.* (2020:1-2,5) confirms that successful role models in entrepreneurship education models may positively sway students' entrepreneurial intentions and attitudes. Individuals are attracted to role models they perceive as comparable to them in terms of behaviour or goals, characteristics and from whom they can learn specific competencies or skills (Boldureanu *et al.*, 2020:2,5).

2.9.2.7 Contextualising trends in entrepreneurship education for economic development and growth

The generalist approach to entrepreneurship education seems to lack the design, implementation, and the ensuing evaluation of their effectiveness (Naidoo & Wu, 2014:548,553; Vanevenhoven, 2013:467-469). Fayolle (2013:697,698) and Zeng and Honig (2016:242) are proponents of more specificity in designing and implementing objectives, teaching methods, and content with a specific focus on homogeneous instead of heterogeneous groups.

The following nine research articles show examples of entrepreneurship education models for specific groups:

a. An explorative study of entrepreneurship training programmes in Christian institutions in Ghana (Arthur & Adom, 2020:713-727):

   The research paper explores the beneficiaries' characteristics, perceptions and relevance of entrepreneurship education programmes in Christian organisations in Ghana (Arthur & Adom, 2020:713).

   The researcher has the following recommendations (Arthur & Adom, 2020:724):

   - That the outcomes of the programmes be expanded to include the development of technical skills and business competencies.
   - The entrepreneurship education programmes must target specific groups, such as women, youth and the unemployed, to cater for the unique challenges they face and their particular needs.

b. Exploring entrepreneurship education within veterinary medicine: can it be taught? (Henry & Treanor, 2012:484-493):

   The paper investigates entrepreneurship education within veterinary medicine and the perceptions of both veterinary employers and students regarding the teaching of entrepreneurship education in the veterinary field (Henry & Treanor, 2012:484). The authors highlight the importance of contextualising entrepreneurship education to fit the selected sector and discipline (Henry & Treanor, 2012:488). The study found some disparity between the employers' views in students on which elements should be included in the entrepreneurship training. The students indicated financial aspects like pricing and profitability as a priority, while the employers also added creativity, teamwork and meeting

the practice's business needs (Henry & Treanor, 2012:493). The students' view of what entrepreneurship and business involve was narrow (Henry & Treanor, 2012:493).

c. Integrating innovation and entrepreneurship principles into the Civil Engineering curriculum (Beiler, 2015:1-8):

This paper assessed the findings of the Kern Entrepreneurship Education Network (KEEN) programme for civil engineers. The programme uses KEEN Student Outcomes (KSOs) to integrate entrepreneurship and innovation into engineering (Beiler, 2015:1). The five primary KSO's are (1) enterprising attitude, (2) multidimensional problem-solving, (3) productive collaboration, (4) clarifying communication and (5) steadfast integrity (Beiler, 2015:2).

d. A model of entrepreneurship education in franchising – application of outside-in marketing with behavioural focus (Quach *et al.*, 2020:116-125):

The study proposes a need to tailor the approach to entrepreneurship education to different types of entrepreneurs to increase the programme's efficiency (Quach *et al.*, 2020:117). This research paper draws on the outside-in marketing perspective to outline the development, implementation, evaluation and reflection of a real-world entrepreneurship education intervention that includes affective, cognitive and behavioural objectives (Quach *et al.*, 2020:116). An audience and context-specific entrepreneurship education model drawing on an outside-in marketing perspective (Quach *et al.*, 2020:117).

e. An enterprise opportunity for entrepreneurial students: student enterprise development and experience assessed through the student voice (Bell & Bell, 2016:751-765):

This research investigates the effectiveness of an experiential learning approach available to students from all disciplines. The approach combines enterprise and hands-on experience with mentoring in a competitive environment (Bell & Bell, 2016:751). The researchers found that the greatest effect of this entrepreneurship education model was on student confidence and trust in their own ability to start a business (Bell & Bell, 2016:751,764).

f. Developing an entrepreneurship education model in improving the skills of recycling of elementary school students (Darmawati *et al.*, 2020:117-131):

The focus of this study was on developing an entrepreneurship education model to improve the recycling skills of elementary school children and to establish if aspects of knowledge,

attitudes and skills of the children improved as a result of the entrepreneurship education model (Darmawati *et al.*, 2020:117). The entrepreneurship education model includes the following steps: (1) Introduce entrepreneurship education as social science in elementary schools, (2) improve the level of skills training, (3) conduct entrepreneurial practices, (4) integrate the entrepreneurship material with the applicable local content like the use of recycled material and the resulting cultural and economic benefits and (5) extra-curricular activities such as weaving skills (Darmawati *et al.*, 2020:128).

g. Effective models of science, technology and engineering entrepreneurship education: current and future research (Fayolle *et al.*, 2020:1-11):

   The research paper explores how entrepreneurship can be taught to students in science, technology and engineering using dedicated teaching models (Fayolle *et al.*, 2020:2). Fayolle *et al.* (2020:4,8) conclude that entrepreneurship education is not a one-size-fits-all solution. Students' learning styles must be well-matched to the teaching style of the entrepreneurship education model. Fayolle *et al.* (2020:4), supporting research by Felder *et al.* (2000:29-39), have identified the following seven tried and tested steps to teach to engineering classes: (1) Formulate and publish clear instructional objectives, (2) ascertain the significance of course material and teach inductively, (3) balance the concrete, and abstract info, (4) encourage active learning, (5) use co-operative learning methods, (6) give thought-provoking, but fair tests and (7) express a sense of concern about students learning.

h. How should entrepreneurship be taught to students with diverse experiences? A set of conceptual models of entrepreneurship education (Zeng & Honig, 2016:242-282):

   The researchers developed three conceptual entrepreneurship education models based on the techniques of entrepreneurship pedagogy, for example, experiential learning (Zeng & Honig, 2016:242-264). The students were divided into three groups (students without entrepreneurship experience, previous entrepreneurship experience, and those currently running their own business) instead of treating them as one homogeneous group (Zeng & Honig, 2016:242).

This section showed the latest trends in entrepreneurship education. The more focussed approach in entrepreneurship education models is specifically important when considering the differences between male and female entrepreneurs.

2.10 CONCLUSION

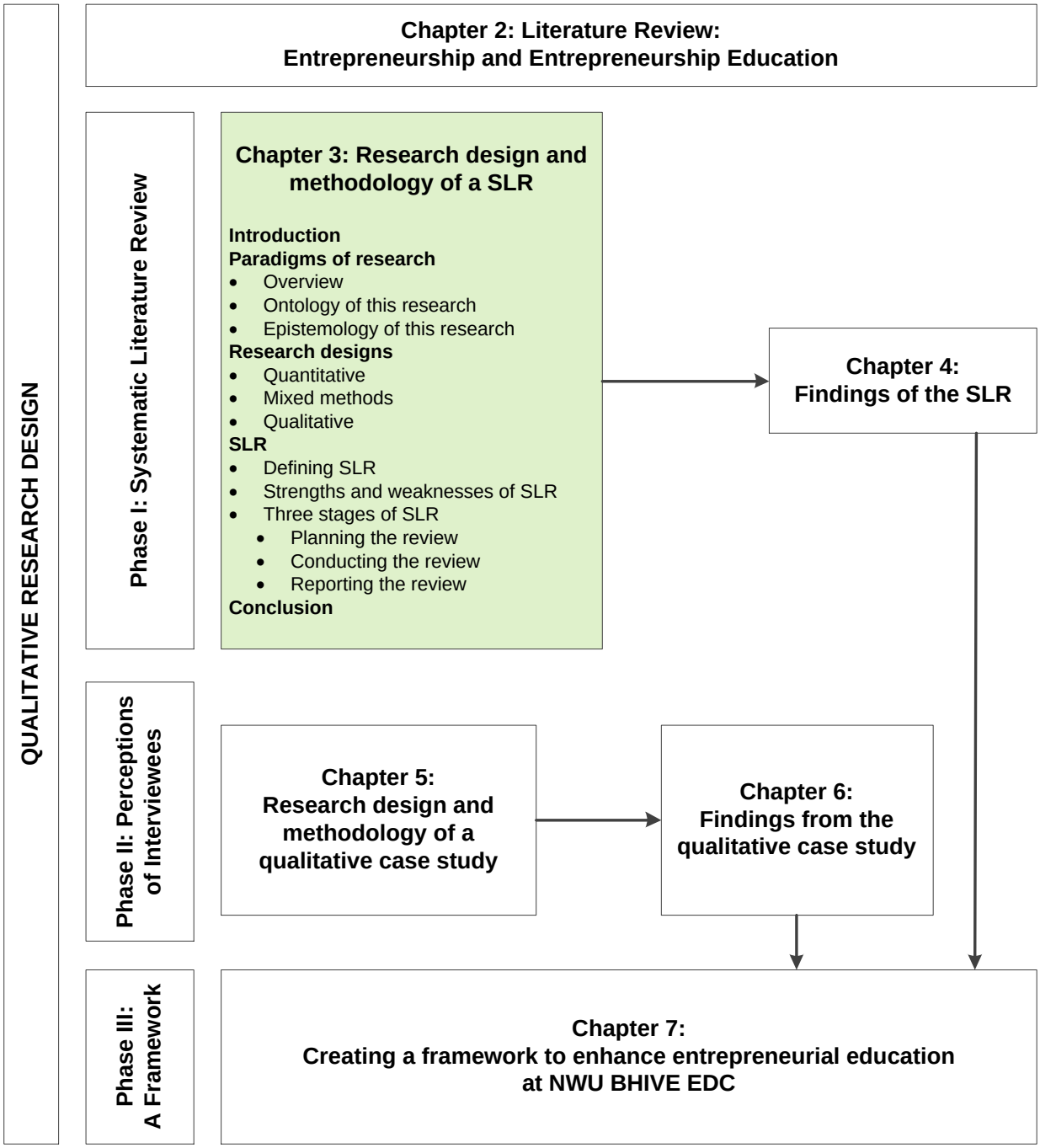
The South African economy is under pressure with high unemployment and low economic growth rates. The 2020 Covid-19 pandemic had an additional negative impact on the growth rate. The references in this chapter indicate that an important solution to low growth rates and unemployment is the development of entrepreneurs and entrepreneurial activity.

Over the past decade, female entrepreneurs have played a more robust role in the economy. The GEM report shows that female entrepreneurs in South Africa still lag behind male entrepreneurs. Research shows that female entrepreneurs face unique challenges like lower education levels and lack of confidence. Entrepreneurship education is an important solution to increasing entrepreneurial activity, especially for female entrepreneurs.

While researchers agree that entrepreneurship can be taught, there is no consensus on the method or specific content required in entrepreneurship training and education. The content of this chapter shows that more research is required to establish EE and training best practices. This study used the SLR process and semi-structured interviews (with open-ended questions) with female entrepreneurs who completed the EWP to establish current best practices in entrepreneurship education. Chapter 3 describes the SLR conducted to gain in-depth knowledge on existing entrepreneurship education models and methods in developed and underdeveloped countries.

CHAPTER 3
PHASE I RESEARCH DESIGN AND METHODOLOGY OF A SYSTEMATIC LITERATURE REVIEW

Figure 3.1: Research design and methodology: A Qualitative case study



Source: Own compilation

3.1 INTRODUCTION

Chapter 3 focuses on the research design and methodology of the SLR and the process followed to determine what existing entrepreneurial models and methods are available in developed and underdeveloped countries (Figure 3.1). Not many institutions within the South African context provide entrepreneurial training and development, so the researcher had to gather the data through documents within the public domain. Even though documents were identified as the data collection strategy, the same rigour process had to be applied when selecting the participants for the interview (Merriam & Tisdell, 2016:96-103). A SLR was executed to address the theoretical objective of the research., *to explore the existing models for entrepreneurial training in developed and underdeveloped countries and the essential requirements for sustainable EE programmes and* ensure that the existing EWP at NWU bhive EDC aligns with best practices globally. This chapter unpacks the (3.2) paradigm view of the research;(3.3) the design for Phase I of the study; (3.4) the methodology of the scientific process of the SLR executed to address the empirical objectives of the research.

3.2 PARADIGMS OF RESEARCH

The following section provides a brief orientation of the four paradigms of research, which were used as the foundation for this research and a detailed description of the four assumptions of the paradigm in which this research was rooted.

3.2.1 Overview of the paradigms of research

“A paradigm hence implies a pattern, structure and framework or system of scientific and academic ideas, values and assumptions” (Khatri, 2020:1435-1436). It can be described as a world-view inherited from the researchers’ beliefs and values and guides how the researcher will solve a problem (Schwandt, 2001:183). Moreover, a research paradigm indicates four sets of assumptions that emerge: ontology, epistemology, human nature and methodology (Figure 3.2). The nature of social sciences research is objective-subjective in nature and functions on a regulation-change continuum. Burrell and Morgan (1979: 28; 2005:22) believe that social research is founded on four paradigms in social sciences: radical structuralist, radical humanist, functionalist and interpretivist (§ 1.7.1).

Figure 3.2: Four paradigms of research

Radical Humanist from a subjective stance	Radical Structuralist from an objective stance
Interpretivist from a subjective stance for Phase I and II of this research	Functionalist from an objective stance

Source: Burrell & Morgan (2005:32)

The radical structuralist paradigm focuses on the sociology of radical change from an objective point of view. Radical structuralists conduct research within organisations of society to question the status quo and adjust the protocols of perceptions and realisation (Burrell & Morgan, 2005:33). Research in this paradigm follows a quantitative research design. This study was subjective in nature and focussed on regulation through ascertaining the best practices from literature.

The radical humanist focuses on the sociology of fundamental change from a subjective point of view (Burrell & Morgan, 2005:32). Humanists conduct research in organisations to create pathways for humans to question social patterns and adjust the protocols of perception and realisation (Burrell & Morgan, 2005:33). In the humanist paradigm follows a mixed methods approach. This research did not aim to question the social patterns but to explore the relevant literature published in the public domain to address the objectives of the study.

The functionalist paradigm originated in the sociology of regulation and is mainly used to study organisations and the behaviour of academic sociology from an objectivist point of view (Burrell & Morgan, 2005:26). Functionalist research is pragmatic and focuses on understanding society from a problem-orientated approach. The functionalist aims to gather practical information, gain concrete solutions, and solve real-world problems (Burrell & Morgan, 2005:26-28) through a mixed methods approach. This study focussed on creating a framework for the EWP at the EDC, using documents before executing the amendment of the existing EWP.

This research is rooted in the interpretivist paradigm and subjective in nature. Interpretivist aims to discover and comprehend a phenomenon inductively. Interpretivists believe that the "*social world can only be understood from the standpoint of the individuals who are part of the ongoing*

action being investigated" (Burrell & Morgan, 2005:28). For this reason, interpretive researchers commence research to understand the subjective experiences and perceptions of those directly involved in the social world.

The interpretivists tend to rely upon the participants' views of the phenomenon (Burrell & Morgan, 2005:28) and recognise the importance of this research to develop a framework for the EWP (Burrell & Morgan, 2005:28). Merriam (1998:5) argues that meaning is entrenched in the participants' experiences, and this is mediated through the researcher's own perceptions. Burrell and Morgan (2005:28) and Hussain *et al.* (2013:2375) explain that interpretivist methodologies to the research aim to consider "*the world of human experience*". As this research wants to gain information on entrepreneurial training models and EE in developed and underdeveloped countries (Phase I) from expert voices in the field of research, an interpretivist approach deemed the most appropriate for this phase of the research. The following section elucidates on the four assumptions (ontology, epistemology, human nature, and methodology) of the interpretivist research of this study.

3.2.1.1 Ontology of this research

Blaikie (2007:13) and Merriam (2009:8) advocate that ontology relates to the nature of social reality. In social sciences research, ontology adopts two concepts: (i) social interaction that occurs with the resources and networks to their disposal; and (ii) social reality that is built when humans engage in social activities making use of their rational skills. As this research was subjective in nature, subjectivism, from an ontological point of view, studies people's actions and activities as part of their social worlds (Eriksson & Kovalainen, 2008:13). As this research aimed to gain the perceptions of the experts in the field of EE, training and development, the researcher engaged with the documents available in the public domain.

3.2.1.2 Epistemology of this research

Epistemology focuses on the theory of knowledge, the process of knowledge acquisition and the extent of knowledge attained (Blaikie, 2007:19; Merriam, 2009:8). Blaikie (2007:19); Eriksson and Kovalainen (2008:15) and Mack (2010:5) advocate that epistemology describes the: (i) criteria to collect information, (ii) methods to access knowledge, (iii) process to assess the information, and (iv) the techniques to evaluate the limitations and details of knowledge. Ontology and epistemology have an inter-reliant connection as they both provide information and depend on each other in the research process. The ontological and epistemological theories integrated form the paradigm (Mack, 2010:15).

3.3 RESEARCH DESIGNS

There are three types of research designs: quantitative, mixed methods (quantitative and qualitative) and qualitative research. Table 3.1 summarises the distinct difference between quantitative and qualitative research designs. The following section provides a brief description of each of the three designs, but a detailed explanation of the design used for this research.

Table 3.1: Differences between quantitative and qualitative research designs

Description	Quantitative research	Qualitative research
Assumptions about the world	Based on some form of positivism, that assumes stable social facts with a single reality.	Based on constructionism that assumes that multiple realities are socially constructed through collective and individual views or perceptions of the same situations.
Research purpose	Seeks to determine relationships and explain the grounds of the changes in measured outcomes.	Concerned with understanding the social phenomenon from the perspective of the participants. The researcher often participates in the lives of the participants' lives to some degree.
Research methods and process	Established set of steps and procedures to guide the researcher. Choose data collection methods as part of a pre-established design.	Greater flexibility in the research process and strategies. Qualitative researchers can use an evolving design and adjust decisions regarding data collection strategies during the study.
Prototypical studies	The researcher usually employs correlation or experimental design to reduce bias, error and the influence of unimportant variables. Seeks to control bias through design.	The ideal qualitative study of ongoing events is an ethnography of inessential variables to help readers understand multiple perspectives of the social system or scene by the persons studied. Consider subjectivity in data analyses and interpretation.

Description	Quantitative research	Qualitative research
Researchers' role	Ideally, the researcher is detached from the study to elude bias.	Qualitative researchers immerse themselves in the situation and phenomenon studied. Sometimes qualitative researchers assume interactive social roles where they record observations and interviews with participants in a variety of contexts. The emphasis is on the collection of data by a prepared, skilled person instead of an instrument. Qualitative research is known for "disciplined subjectivity" and "reflectivity", that is, essential self-examination of the researcher's role throughout the research process.
Importance of the context in the study	Mostly quantitative research endeavours to determine universal, context-free generalisations.	Qualitative researchers believe that human actions are deeply influenced by the settings in which they occur. To understand human behaviour, the researcher needs to understand the context or framework in which participants interpret their feelings, actions and thoughts. The researcher notes the framework during data collection and analyses.

Source: McMillan and Schumacher (2014:20-21)

3.3.1 Quantitative research design

Quantitative research is the process used to explain occurrences by gathering numerical data that can be analysed by mathematically based models (statistics). The emphasis of quantitative data is on comparatively wide-ranging and representative sets of data (McMillan & Schumacher, 2014:29; Chesebro & Borisoff, 2007:8; Kothari, 2004:5; Welman et al., 2005:188). Quantitative research has an important subclassification (experimental/non-experimental). It is important to classify the research as this has major implications for the nature of the design and the type of conclusions that can be drawn (McMillan & Schumacher, 2014:29; Chesebro & Borisoff, 2007:8; Kothari, 2004:5; Welman et al., 2005:188). There are two types of quantitative designs, experimental and non-experimental. Experimental focuses on a single subject, used in situations where it is inconvenient or impossible to study entire groups or subjects. Single-subject design is an alternative that specifies methods that can be used with a single subject or limited subjects and still allow for cause-and-effect conclusions. The non-experimental research design examines

relationships between occurrences and describes phenomena without the occurrence of any direct manipulation of conditions experienced (McMillan & Schumacher, 2014:29; Chesebro & Borisoff, 2007:8; Kothari, 2004:5; Welman *et al*., 2005:188).

3.3.2 Mixed methods research design

Mixed methods studies use a combination of qualitative and quantitative approaches to research. The emphasis of the mixed method can be on either the qualitative or quantitative methods characteristics (McMillan & Schumacher, 2014:19-21; Merriam & Tisdell, 2016:44-48). Generally, the more established qualitative and quantitative designs are used in the mixed methods studies (McMillan & Schumacher, 2014:19-21; Merriam & Tisdell, 2016:44-48). Purist researchers argue that qualitative and quantitative research methods are based on dissimilar hypotheses about the world, research methods, research purpose, the researcher's role, prototypical studies, and the importance of context in the studies (McMillan & Schumacher, 2014:19-21; Merriam & Tisdell, 2016:44-48):

3.3.3 Qualitative research design

Denzin and Lincoln (2008:29) state that “qualitative researchers deploy a wide range of interconnected interpretive methods, always seeking better ways to make more understandable the worlds of experiences they have studied”. Creswell (2013:44) and McMillan and Schumacher (2014:344) defined qualitative research as follows: “Qualitative research begins with assumptions, a world-view, the possible use of a theoretical lens, and the study of research problems inquiring into the meaning individuals or groups ascribe to a social or human problem”. To study this problem, qualitative researchers use an emerging qualitative approach to inquiry, the collection of data in a natural setting sensitive to the people and places studied, and data analysis that is inductive and establishes patterns or themes. Interpretive researchers, therefore, use diverse methodologies such as case studies, phenomenology and ethnography. Using a qualitative methodology, plunge themselves in a philosophy by detecting its people and their interfaces, often participating in activities, interviewing key people, taking life histories, constructing case studies, and analysing existing documents, unlike positivism that depends on quantifiable interpretations that lead themselves to statistical analysis (Mackenzie & Knipe, 2006:3).

Qualitative research focuses on understanding the social experiences of the participant’s perceptions (McMillan & Schumacher, 2014:15; Chesebro & Borisoff, 2007:8; Kothari, 2004:5; Welman *et al*., 2005:188). To capture the subjective experiences of those who are the experts in their respective fields, the researcher can collect qualitative data through observations,

interviews, videos, images or documents (McMillan & Schumacher, 2014:32; Merriam & Tisdell, 2016:25).

Phase I of the research considered documents to address the objective of the first phase of the research. In order to ensure that the documents adhere to the selection criteria, a SLR was conducted.

3.4 SYSTEMATIC LITERATURE REVIEW

The following section unpacks the SLR methodology that was executed for Phase I of the research (§ 1.7.2.1).

3.4.1 Defining systematic literature review

A literature study can only be of scientific value if it is thorough and fair (Combs & Onwuegbuzie, 2010:2; Kitchenham, 2004:2), and conducted with scientific rigour. Kitchenham (2004:1) and McMillan and Schumacher (2014:20) define a SLR as a method of identifying, appraising and interpreting all relevant research that applies to a specific research question, phenomenon of fascination, or theme. A SLR is structured and conducted with a predetermined search strategy that provides for its completeness to be evaluated (Combs & Onwuegbuzie, 2010:2; Kitchenham, 2004:2). The SLR synthesises existing research in a way that is fair and what is seen as fair (Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140). Researchers use the SLR to include extensive research of, both qualitative and quantitative in nature, in support of the research objectives of the study (Combs & Onwuegbuzie, 2010:2; Kitchenham, 2004:2; Merriam, 2009:140).

The most common reasons for conducting a SLR are (Cronin *et al.*, 2008:38,39; Kitchenham, 2004:1):

- To identify gaps in existing research to suggest areas for further investigation.
- To summarise the existing research on a specific topic and identify the limitations and benefits of the research.
- To establish a framework of the existing research and, therefore, position the new research activities appropriately.

In this study, an SLR as a form of qualitative data collection strategy was used to address the subsequent theoretical objectives of the study: (i) to explore the existing best practices in entrepreneurial training and education; (ii) to determine current models for EE in underdeveloped and developed countries; (iii) ascertain essential requirements for a sustainable EE programme.

The following section discusses the strengths and weaknesses of an SLR, what measures the researcher included to mitigate the shortcomings and to maximise on the benefits of using a SLR as a qualitative data collection strategy while still addressing the theoretical objectives of the research.

3.4.2 Strengths and weaknesses of systematic literature review

As in any research design there are certain strengths and weaknesses. As such, SLR (Kitchenham, 2004:2):

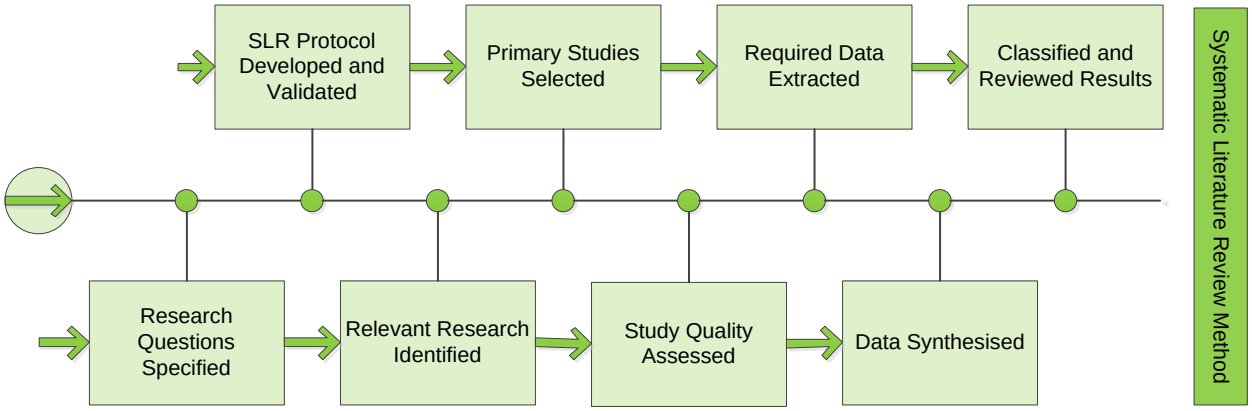
- provides information on certain phenomena (EE models and methods) across a wide range of settings and empirical methods.
- provides evidence that the phenomena are robust and communicable. If the study yields inconsistent findings, the sources of the variation can be studied.
- makes it possible to combine data by using meta-analytic techniques, therefore increasing the likelihood that real effects can be detected that cannot be observed in smaller individual studies. In order to capitalise on the strengths of the SLR, the researcher searched for a wide range of literature published globally, inclusive of quantitative and qualitative studies, to address the above-mentioned theoretical objectives (§ 3.2) of the research.

The weaknesses of an SLR include (Kitchenham, 2004:2) the increased power of the SLR, which can be counterproductive if the study can identify small biases along with the actual effects, if the process is not conducted with scientific rigour, and if the validity and reliability of the process is not documented and embedded within the process. In order to ensure that SLR was rigour, reliable and valid, the researcher followed the three stages of the SLR and documented the entire process as evidence. The next section unpacks the planning of the SLR conducted to address the objectives of the study.

3.4.3 Three stages of a systematic literature review

3.4.3.1 Stage 1: Plan the review

Figure 3.3: Systematic literature review process



Source: Kitchenham (2004:3)

The SLR consists of several distinct activities (Figure 3.3). The present guidelines for a SLR differ on the order and number of activities. The SLRs activities can be divided into three phases: (i) Stage 1—plan the review; Stage 2—conduct the review; and Stage 3—report the review (Cronin *et al.*, 2008:39; Kitchenham, 2004:3). Within each of the three stages, specific activities needed to be conducted to ensure that the process adhered to the protocol of a SLR (Figure 3.3).

Kitchenham (2004:2) and Cronin *et al.* (2008:39) identified the following SLR features:

- Step 1 of the SLR is to define the review protocol that specifies the research question along with the method that will be used in the review.
- The basis of the SLR is a well-defined search strategy to locate as much of the relevant literature as possible.
- With systematic literature studies, their search strategy is documented so that the reader can assess the rigour and completeness.
- The SLR requires a detailed inclusion and exclusion criteria so that each potential primary review can be assessed.
- The information to be obtained from each primary study, including the quality criteria with which the primary study will be evaluated, is specified by the SLR.
- The SLR is a prerequisite for a quantitative meta-analysis.

The research questions

It is critically important in any SLR to ask the right question. Kitchenham (2007:9,10) had the following questions:

- Is it important and meaningful to the researchers?
- Will it lead to more confidence in current practice, or will it lead to a change in current practice?
- Will it point out discrepancies between current perceptions and reality?
- Certain SLRs ask questions that are of interest only to researchers. This type of SLR's question seeks to identify current research activities or to identify future research activities.

Phase I of the research aimed to conduct a SLR to explore the existing models for entrepreneurial training in developed and underdeveloped countries as well as the essential requirements for sustainable EE programmes.

Development of review protocol

The SLR features and the review protocol for this study are discussed in the following sections. The protocol is a critical component of the SLR. The researchers must agree on the review procedure of the protocol. If funding is available, it is ideal that independent experts be appointed to review the protocol and if possible, the final report (Kitchenham, 2004:7; 2007:12,13). However, a peer reviewer and critical reader were appointed for this research to ensure that the review protocol was executed.

The review protocol consists of several stages that have appeared to be sequential, but some of the stages involve iterative processes. Many activities are initiated during the protocol development stage and can only be refined when the review takes place (Cronin *et al.*, 2008:39; Kitchenham, 2007:6-7). Examples include:

- The data synthesis methods initially defined in the research question may be modified when the data have been collected.
- The inclusion and exclusion criteria govern the choice of the primary study. These criteria are specified when developing the initial research question, and the criteria may be adjusted after the quality criteria are defined.
- The data extraction documents specified during the research question development may be amended after the quality criteria have been finalised.

The review protocol is used to specify the methods that were used in the specific SLR. A predetermined review protocol is needed to reduce the risk of researcher bias. Without a predetermined protocol, the researcher's expectations can influence the selection of the individual studies or their analysis (Kitchenham, 2004:4). The components of the review protocol consist of all the elements of the review plus certain additional planning information (Kitchenham, 2004:4,5):

- Background information. What is the rationale for the SLR?
- Research questions that the review intends to answer.
- What strategy will be used to search for primary studies? This includes the search terms and resources to be searched, including the specific journals, databases and conference procedures. Using an initial scoping study can be very beneficial to determine the appropriate strategy.
- The selection criteria and procedures of the study. The selection criteria determine the criteria for inclusion and exclusion of a study from the SLR. Applying the selection criteria to a subdivision of the primary studies is advantageous as a pilot study. The protocol must describe how the selection criteria will be applied, for example, how many assessors will evaluate each potential primary study and how disagreements between assessors will be solved.
- The researcher must develop a quality checklist to help assess each study. The purpose of the quality assessment will guide the development of the checklists.

The researcher must identify existing SLRs that fall within the scope of the planned study and review them against the appropriate evaluation criteria. Kitchenham (2007:7-8) recommends the following checklist that was executed for the SLR of this study. Table 3.2 summarises the checklist that was developed for the SLR on EE, training, and development locally and globally.

Table 3.2: Checklist executed for the systematic literature review for this study

Checklist item	**Execution with the SLR for this study**
Purpose of the SLR	• To explore of the existing best practices in entrepreneurial training and education. • To determine which current models for EE in underdeveloped and developed countries. • Ascertain essential requirements for a sustainable EE programme.

Checklist item	**Execution with the SLR for this study**
Sources identified for the primary study	• Peer-reviewed journal articles and conference proceedings • Existing SLR studies • Book chapters
Restrictions	• Only articles, book chapters and documents available in the public domain.
Inclusion criteria	• Peer-reviewed articles and conference proceedings from 2010 to current. • Books and book chapters from 2010 to current. • Articles, conference proceedings, books and book chapters must be in English. • Only articles, conference proceedings and book chapters that refer to entrepreneurship models and frameworks in substantial detail.
Exclusion criteria	• Peer-reviewed articles and conference proceedings older than 2010. • Peer-reviewed articles and conference proceedings that only refer to entrepreneurship models and frameworks in passing, without supplying detailed information about the model or framework. • Articles, conference proceedings, books and book chapters in other languages than English. • Articles etc. where the focus is on entrepreneurial intent rather than entrepreneurial models or frameworks. • Articles where the focus is on entrepreneurial ideas rather than entrepreneurial models or frameworks. • Articles that focus on business management subjects rather that entrepreneurship models and frameworks.
Quality control	• Development of protocol align with the inclusion and exclusion criteria.

Checklist item	**Execution with the SLR for this study**
Data extraction	• List of peer-reviewed journal articles and conference proceedings, SLR studies and book chapters included for analysis in Atlas.ti 9 ™.
Synthesise of data	• Extraction of data inductive and deductively for the development of the concept framework.

Source: Adapted from Kitchenham (2007:7-8)

A SLR was executed for the research to ensure that all existing information about the phenomenon were summarised in a thorough and unbiased manner. In order to generalise and draw conclusions about EE, training and development in a local and global context, a SLR was the vehicle to ensure that the appropriate questions were developed for Phase I of the study and to develop a concept framework for EWP.

Researchers ensured that an SLR is a requirement to address the research objectives. The question structure must take the following into consideration (Kitchenham, 2007:10-12):

- The structure of the question can be approached from three different points of view.
- The people affected by the intervention, i.e., the population (EWP participants).
- The research question may apply to a very specific field of study (EE, training, and development in developed and underdeveloped countries).
- The intervention is a comparison between two or more alternative approaches (face-to-face, online, and hybrid).
- The outcomes of the different interventions. The outcomes must be related to factors that are important to the researcher and practitioners (Framework to enhance EE at the bhive EDC of the NWU).

The researcher must identify existing SLRs that fall within the scope of the planned study and review against the appropriate evaluation criteria. Kitchenham (2007:7-8) recommends the following checklist, which was executed for the SLR of this study:

The proposed search strategy for the search for primary studies for this study includes the described inclusion/exclusion strategy. The search was narrowed down by the use of specific key phrases:

- Can entrepreneurship be taught?
- Enhancing EE and skills training
- Entrepreneurship definition
- Entrepreneurship education
- Entrepreneurship education models
- Entrepreneurship skills training
- Framework for enhancing EE and skills training

3.4.3.2 Stage 2: Conducting the review

The actual review can start once the protocol has been agreed. Conducting the review involves: (i) identifying the research, (ii) selecting the studies, (iii) assessing the quality of the selected study, (iv) extracting, and synthesising and classifying the data. Some of these stages proceed sequentially while others can take place simultaneously (Kitchenham, 2007:14).

Identifying the research

The purpose of the systematic review is to find as many studies associated with the research question as possible using an unbiased search strategy (Kitchenham, 2007:14) and include the scientific search databases of the NWU. The researcher conducted multiple searches to select the documents, journal articles, conference proceedings, and book chapters published. The following electronic databases were identified with the assistance of the information specialist: (1) Web of Science, (2) Scopus, (3) Science Direct, (4) Emerald Insights, (5) EBSCO discovery service, (6) Google Scholar. To confirm validity, the searches were completed with the assistance of the Manager Information Services in the Faculty of Economic and Management Sciences, on the Vanderbijlpark campus, of the NWU. The search criteria used for the selection process included: (1) Language (English only), (2) publication date, (3) research design, (4) journals and (5) authors. Table 3.3 summarises the documented searches for the SLR.

Generating a search strategy

It is important to develop a search strategy and follow the strategy closely. The search strategy typically is iterative and takes advantage of (Kitchenham, 2007:14,15):

- A preliminary search to identify existing SLRs and identify the volume of the potentially relevant studies.

- The use of various combinations of search terms, derived from the research question, in trail search.
- A review of search findings.
- Consulting experts in the field of study.

As a common rule, the research question is divided into different individual components such as, for example, outcomes, interventions, population, and the design of the study. A list of abbreviations, alternative spellings and synonyms is then compiled. Journals and databases serve as a source for alternative terms that can be included (Kitchenham, 2007:14).

Although the initial search for primary studies can be done with the help of electronic databases, other sources must also be included such as (Kitchenham, 2007:15):

- Conference proceedings and other journals
- The source lists of primary studies identified and review articles
- The internet
- Research registers

Specific researchers who are specialists in their field can also be identified and contacted directly for advice on appropriate source material (Kitchenham, 2007:14). The researcher consulted with experts in the EE field and searched electronic databases (to identify relevant research articles, conference proceedings and book chapters). Table 3.3 documents the search process followed on the databases.

Table 3.3: Documentation of the search process on databases

Date	Database	Keywords	Hits	Selection	Exclusion
Round 1					
26/1/2021	Ebsco	Can Entrepreneurship be taught	1	1	
26/1/2021	Ebsco	Entrepreneurship Definition	41		First-round, title review — 41 Articles removed that are not relevant to this study
26/1/2021	Ebsco	Entrepreneurship Education Models	57	23	First-round, title review — 34 Articles removed that are not relevant to this study
26/1/2021	Ebsco	Entrepreneurship Skills training	6		First-round, title review — 6 Articles removed that are not relevant to this study
26/1/2021	Emerald Insights	Can entrepreneurship be taught	1		First-round, title review — 1 Article removed that is not relevant to this study
26/1/2021	Emerald Insights	Enhancing EE and skills training	0	0	
26/1/2021	Emerald Insights	Entrepreneurship Definition	3		First-round, title review — 3 Articles removed that are not relevant to this study
26/1/2021	Emerald Insights	Entrepreneurship education	283		First-round, title review — 283 Articles removed that are not relevant to this study
26/1/2021	Emerald Insights	Entrepreneurship Education Models	6	6	
26/1/2021	Emerald Insights	Entrepreneurship skills training	1		

Date	Database	Keywords	Hits	Selection	Exclusion
26/1/2021	Emerald Insights	Framework for enhancing EE and skills training	3	3	
28/1/2021	Science Direct	Can Entrepreneurship be taught	4		First-round, title review — 4 Articles removed that are not relevant to this study
28/1/2021	Science Direct	Enhancing EE and skills training	4	4	
28/1/2021	Science Direct	Entrepreneurship Definition	26		First-round, title review — 26 Articles removed that are not relevant to this study
28/1/2021	Science Direct	Entrepreneurship Education	29		First-round, title review — 29 Articles removed that are not relevant to this study
28/1/2021	Science Direct	Entrepreneurship Skills training	10	2	First-round, title review — 8 Articles removed that are not relevant to this study
21/1/2021	Scopus	Can entrepreneurship be taught	4		First-round, title review — 4 Articles removed that are not relevant to this study
21/1/2021	Scopus	Enhancing entrepreneurial and education and skills training	8	7	First-round, title review — 1 Article removed that is not relevant to this study
21/1/2021	Scopus	Entrepreneurship definition	49		First-round, title review — 49 Articles removed that are not relevant to this study
21/1/2021	Scopus	Entrepreneurship education	14		First-round, title review — 14 Articles removed that are not relevant to this study
21/1/2021	Scopus	Entrepreneurship Education Models	7	7	

Date	Database	Keywords	Hits	Selection	Exclusion
21/1/2021	Scopus	Entrepreneurship skills training	7	6	First-round, title review — 1 Article removed that is not relevant to this study
21/1/2021	Scopus	Framework for Enhancing entrepreneurial and education and skills training	1	1	
19/1/2021	Web of Science	Can Entrepreneurship be taught	183	51	First-round, title review — 132 Articles removed that are not relevant to this study
19/1/2021	Web of Science	Enhancing EE and Skills Training	31	22	First-round, title review — 9 Articles removed that are not relevant to this study
13/1/2021	Web of Science	Entrepreneurship	6192		Search further refined: ad education
13/1/2021	Web of Science	Entrepreneurship definition	14		First-round, title review — 14 Articles removed that are not relevant to this study
13/1/2021	Web of Science	Entrepreneurship Education	526		Search further refined : ad models
19/1/2021	Web of Science	Entrepreneurship Education Models	18	16	First-round, title review — 2 Articles removed that are not relevant to this study
19/1/2021	Web of Science	Entrepreneurship skills training	2	2	
19/1/2021	Web of Science	Framework for Enhancing EE and Skills Training	5	5	
Subtotal after Round 1			**7 536**	**156**	

Date	Database	Keywords	Hits	Selection	Exclusion
Round 2					
19/1/2021	Web of Science	Can Entrepreneurship be taught	51	26	Second-round, abstract review — 25 Articles removed that are not relevant to this study
	Ebsco	Can Entrepreneurship be taught	1	1	
	Scopus	Enhancing entrepreneurial and education and skills training	7	4	Second-round, abstract review — 3 Articles removed that are not relevant to this study
	Web of Science	Enhancing EE and Skills Training	22	13	Second-round, abstract review — 9 Articles removed that are not relevant to this study
	Science Direct	Enhancing EE and skills training	4	3	Second-round, abstract review — 1 Article removed that is not relevant to this study
	Web of Science	Entrepreneurship Education Models	16	12	Second-round, abstract review — 1 Article removed that is not relevant to this study
	Scopus	Entrepreneurship Education Models	7	5	Second-round, abstract review — 2 Articles removed that are not relevant to this study
	Emerald Insights	Entrepreneurship Education Models	6	5	Second-round, abstract review — 1 Articles removed that is not relevant to this study
	Ebsco	Entrepreneurship Education Models	23	23	
	Web of Science	Entrepreneurship skills training	2	2	
	Scopus	Entrepreneurship skills training	6	6	
	Science Direct	Entrepreneurship Skills training	2	2	

Date	Database	Keywords	Hits	Selection	Exclusion
19/1/2021	Scopus	Framework for Enhancing entrepreneurial and education and skills training	1	1	
	Web of Science	Framework for Enhancing EE and Skills Training	5	4	Second-round, abstract review — 1 Article removed that is not relevant to this study
	Emerald Insights	Framework for enhancing EE and skills training	3	3	
Subtotal after Round 2			**156**	**110**	
Round 3					
19/1/2021	Web of Science	Can Entrepreneurship be taught	26	12	Third round, full article review — 14 Articles removed that are not relevant to this study
	Ebsco	Can Entrepreneurship be taught	1	-	Third round, full article review — 1 Article removed that is not relevant to this study
	Scopus	Enhancing entrepreneurial and education and skills training	4	4	
	Web of Science	Enhancing EE and Skills Training	13	5	Third round, full article review — 8 Articles removed that are not relevant to this study
	Science Direct	Enhancing EE and skills training	3	-	Third round, full article review — 3 Articles removed that are not relevant to this study
	Web of Science	Entrepreneurship Education Models	12	7	Third round, full article review — 5 Articles removed that are not relevant to this study

Date	Database	Keywords	Hits	Selection	Exclusion
19/1/2021	Scopus	Entrepreneurship Education Models	5	3	Third round, full article review — 2 Articles removed that are not relevant to this study
	Emerald Insights	Entrepreneurship Education Models	5	2	Third round, full article review — 3 Articles removed that are not relevant to this study
	Ebsco	Entrepreneurship Education Models	23	16	Third round, full article review — 7 Articles removed that are not relevant to this study
	Web of Science	Entrepreneurship skills training	2	1	Third round, full article review —1 Article removed that is not relevant to this study
	Scopus	Entrepreneurship skills training	6	3	Third round, full article review — 3 Articles removed that are not relevant to this study
	Science Direct	Entrepreneurship Skills training	2	-	Third round, full article review — 2 Articles removed that are not relevant to this study
	Scopus	Framework for Enhancing entrepreneurial and education and skills training	1	1	
	Web of Science	Framework for Enhancing EE and Skills Training	4	4	
	Emerald Insights	Framework for enhancing EE and skills training	3	2	Third round, full article review — 1 Article removed that is not relevant to this study
Totals after Round 3			**110**	**60**	

Source: Own compilation

Publication bias

The publication bias can lead to systematic bias in SLRs if not enough attention is paid to the problem. The search strategy mentioned above can be used successfully to avoid publication and systematic bias; these include (Kitchenham, 2007:15):

- Glance over conference proceedings
- Perusing grey literature
- Getting in touch with researchers and experts working in the research area and inquire if they know about any unpublished studies.

Furthermore, statistical analyses procedures can be used to identify the hypothetical significance of publication bias (Kitchenham, 2007:16).

The search strategy for this study was designed to minimise publication bias. The researcher contacted other researchers and specialists to inquire about relevant and unpublished studies. A peer-review process was conducted to ensure that the documents included for analysis were valid and reliable for inclusion.

Bibliography administration and document retrieval

Since an SLR contains a large number of references, it is very useful to use bibliography packages such as Endnote™ or Mendeley™ to manage the references (Kitchenham, 2007:16). Once the reference list is finalised, the full articles of the potentially useful studies should be obtained. A cataloguing system is required to ensure that all relevant research is included in the study (Kitchenham, 2007:16). The researcher exported the documents in Endnote™ to manage the articles identified for this study.

Documenting the search

- The SLR process must be repeatable and transparent (Kitchenham, 2007:16).
- The search process must be documented as it is performed, and changes must be recorded and justified.
- The SLR must be documented in sufficient detail so that readers can determine the thoroughness of the search.
- The unfiltered search findings must be retained and saved so that re-evaluation can be possible.

Kitchenham (2007:16) lists the following procedures for documenting the search process as presented in Table 3.4.

Table 3.4: Procedures for documenting the searches

#	Data source	Information to be documented
1	Electronic database	Name of the database Search strategy applied to each database Date of the search Years covered by the search
2	Conference proceedings	Title of the proceedings Name of the conference Title translation (if applicable) Journal name, if published as part of a journal
3	Journal hand searches	Name of journal Years searched Any issues not searched
4	Steps/processes to identify unpublished studies	The names and contact details of research groups and researchers contacted. Date and URL of research websites searched
5	Other sources	Data contacted or searched URL Any specific conditions related to the search

Source: Adapted from Kitchenham (2007:16)

Study selection

Once the relevant primary studies have been obtained, it must be assessed to determine the actual relevance (Kitchenham, 2007:18). Based on the research protocol and checklist developed for inclusion and exclusion (Table 3.2), the documents were assessed.

Selection criteria

The study's selection criteria aimed to identify those studies that provide direct evidence of the research question. The selection criteria (Table 3.2) developed during the protocol mitigated the likelihood of bias.

The inclusion and exclusion criteria must be grounded in the research question. The criteria must be tested to ensure that they can be interpreted reliably and that studies are classified appropriately (Kitchenham, 2007:18,19).

In this study, the researcher executed 36 independent searches. The search detail and the application of the inclusion/exclusion criteria are documented in Table 3.3, which includes the detail about each search. The individual searches were dated and numbered. The databases accessed and the keywords/ phrases searched were listed. The keywords/phrases were used to search the following databases: (1) Google Scholar, (2) Web of science, (3) Scopus, (4) Emerald insight, (5) Science direct and (6) EBSCO discovery service. These scientific databases include all the publications relevant to address a research objective, therefore, the researcher was ensured that relevant publications within the field were included.

Selection process

The study selection consists of a multistage process. During the first-round of evaluation, the selection criteria should be applied liberally to ensure that as many studies as possible are included. Only studies that are disqualified during the electronic or manual search by their title and abstract should be excluded. A complete copy must be obtained for all other identified studies (Kitchenham, 2007:19).

The final inclusion/exclusion decision must only be made after studying the full article. It is advisable to keep a detailed list of the excluded studies, along with the reason for exclusion (Kitchenham, 2007:19,20; Weiss, 2002:43,44).

In the first-round of searches, all articles that included one or more of the keywords/phrases were included for additional examination. These searches resulted in a total of 7536 hits between the selected databases (Table 3.3). In the first-round evaluation (title review), all the articles not relevant to the study, articles not in English and duplicate articles were removed. Some of the search words were refined, and the inclusion/exclusion criteria were applied. The application of the inclusion/exclusion criteria resulted in the removal of 7380 articles in the first-round evaluation. In the second-round evaluation (abstract review) 46 articles were removed after applying the inclusion/exclusion criteria. After completion of the first and second-round evaluation, 110 articles remained. In the third round of evaluation the researcher read through all the remaining articles and applied the inclusion/exclusion criteria to confirm relevance. A total of 50 articles were removed during the third round of evaluation that was not relevant to the study or did not contain enough relevant information to be included in this study. After

completion of these steps, only 60 articles were included from the 7536 hits. Table 3.5 summarises the number of articles included and excluded during the search review process.

Table 3.5: Search review process

Article review round	Description	Articles excluded	Article balance
Searches	Total number of articles identified through search process		7 536
Round 1	Review of article titles to establish relevance, removal of non-English articles and removal of duplicate articles	7 380	156
Round 2	Review of article abstracts	46	110
Round 3	Review of full articles	50	60

Source: Own compilation derived from Table 3.3

Table 3.6 summarised the detailed list of the 60 articles selected through the search review process to be included in the SLR.

Table 3.6: List of articles included in SLR

#	Article title	Author	Year	Source
1	A model for youth entrepreneurship skills of the community-based leadership training for the urban youth in china	Sai, X. Kenayathulla, H. B. Saedah, S.	2019	Malaysian Online Journal of Educational Management 7(3):80-98
2	A model of entrepreneurship education in franchising – application of outside-in marketing with a behavioural focus	Quach, S. Weaven, S. Thaichon, P. Grace, D.	2020	Journal of Business & Industrial Marketing 35(1): 116-133
3	An Enterprise Opportunity for Entrepreneurial Students: Student Enterprise Development and Experience Assessed through the Student Voice	Bell, R. Bell, H.	2016	Education and Training 58(7-8):751-765
4	An entrepreneurial learning exercise as a pedagogical tool for teaching CSR	Farber, V. A. Priale, M. A. Fuchs, R. M.	2015	Industry and Higher Education 26(5):345-360
5	An Introduction of Teaching Model for Entrepreneurship Education	Li. J.	2011	2011 International Conference on Management and Service Science, Management and Service Science (MASS),
6	An Introduction to a New Entrepreneurship Education Method—Camp Model	Li, K.	2010	The 2nd International Conference on Information Science and Engineering 2619-2622
7	Assessing the effectiveness of entrepreneurship education in the universities of Tehran province based on an entrepreneurial intention model	Sherkat, A. Chenari, A.	2020	Studies in Higher Education 1-19

#	Article title	Author	Year	Source
8	Business model canvas acceptance among French entrepreneurship students: principles for enhancing innovation artefacts in business education	Lima, M. Baudier, P.	2017	Journal of Innovation Economics & Management 23: 159-183
9	Can entrepreneurship be taught? The approach to teaching entrepreneurship	Zheng, X. Liu, E. Cui, Y.	2009	International Workshop on Intelligent Systems and Applications 1-4
10	Can the poor be trained to be entrepreneurs? The case of the academy for creating enterprise in Mexico	Dyer, W. G. West, B. Peacock, I. Yamada, S. Dyer, J.	2016	Journal of Developmental Entrepreneurship 21(2):1-22
11	Determinants of entrepreneurial intentions Technical-vocational education and training students in Ethiopia	Buli, B. M. Yesuf, W. M.	2015	Education and Training 57(8-9):891-907
12	Developing entrepreneurial behaviours in the Chinese classroom through value creation pedagogy	Bell, R.	2020	Innovations in Education and Teaching International 1-12
13	Developing Entrepreneurship Education Model in Improving the Skills of Recycling of Elementary School Students	Darmawati, D. M. Nadiroh, D.R. Marini, A.	2020	Al Ibtida: Jurnal Pendidikan Guru MI 7(1):117-131
14	Development of College Students' Innovation and Entrepreneurship Ability under the Model of Personalized Education	Chenghao, J. I. N. Yinghua, L. U. O. Hu'nan, S. U. N. Guinan, S. Yinghao, H. A. N. Meihua, J. I. N. Yanqing, Z.	2019	Asian Agricultural Research 11(3):86-88

#	Article title	Author	Year	Source
15	Effective models of science, technology, and engineering entrepreneurship education: current and future research	Fayolle, A. Lamine, W. Mian, S. Phan, P.	2020	Journal of Technology Transfer
16	Empowering EE using undergraduate dissertations in business management and entrepreneurship: A five-year study (2012–2016)	Rodríguez-López, Á Souto, J. E.	2019	Education and Training 61(2):255-271
17	Enhancing students' entrepreneurial mindset: a Swedish experience	Lindberg, E. Bohman, H. Hulten, P. Wilson, T.	2017	Education and Training 59(7-8):768-779
18	Enterprise education: the effect of creativity on training outcomes	Lourenço, F. Jayawarna, D.	2011	International Journal of Entrepreneurial Behaviour & Research 17(3):224-244
19	Entrepreneurship and Art Education Tourism: A Study on Results of Management Skills Training Programme for Students	Nugraheni, T. Budiman, A. Sukmayadi, Y.	2019	Harmonia: Journal of Arts Research & Education 19(2):193-203
20	Entrepreneurship education in practice: the development of a hybrid-training model in an urban environment	Osorio, A. E. Cordero, J. A.	2014	Emerald Group Publishing Limited 24:171-208
21	Explorative study of entrepreneurship training programmes in Christian institutions in Ghana	Arthur, K. N. A. Adom, A. Y.	2020	Journal of Enterprising Communities-People and Places in the Global Economy 14(5):713-727
22	Exploring entrepreneurship education within veterinary medicine: can it be taught?	Henry, C. Treanor, L.	2012	Journal of Small Business and Enterprise Development 19(3):484-499
23	From craft to science: Teaching models and learning processes in entrepreneurship education	Fayolle, A. Gailly, B.	2012	IEEE Engineering Management Review, Engineering Management Review 40(2):569-593

#	Article title	Author	Year	Source
24	How should entrepreneurship be taught to students with diverse experience? A set of conceptual models of entrepreneurship education	Zeng, Z. Honig, B.	2016	Emerald Group Publishing Limited 18:237-282
25	Impact of Fashion Entrepreneurship Programme on Entrepreneurial Interests, Intention and Competencies	Jamaluddin, R. Ali, M. H. Kadir, S. A. Kamis, A.	2019	Journal of Technical Education and Training 11(1):119-128
26	Impact of skill training programmes on women entrepreneurship	Swarnalatha, A. Vasantha, K.	2014	Indian Journal of Health & Wellbeing 5(1):9-13
27	Improving Entrepreneur's Management Skills through Entrepreneurship Training	Putta, S.	2014	Journal of Commerce & Management Thought 5(3):459-474
28	Leveraging experiential learning to incorporate social entrepreneurship in MBA programs: A case study	Awaysheh, A. Bonfiglio, D.	2017	International Journal of Management Education 15(2):332-349
29	Model of local excellence-based on entrepreneurship education management for prospective vocational schoolteachers	Wahyuningsih, S. E. Sugiyo, Samsudi, S. Widowati, T. Kamis, A.	2018	International Journal of Innovation and Learning 24(4):448-461
30	More than just a game: The role of simulation in the teaching of product design and entrepreneurship to mechanical engineering students	Costello, G. J.	2017	European Journal of Engineering Education 42(6):644-652
31	New educational services development: Framework for technology entrepreneurship education at universities in Egypt	Abou- Warda, S. H.	2016	International Journal of Educational Management 30(5):698-717

#	Article title	Author	Year	Source
32	Notion for entrepreneurship in school entrepreneurial skills training	Núñez Ladeveze, L. Núñez Canal, M.	2016	Revista Latina de Comunicacion Social 71:1068-1089
33	Practice-Based Wisdom Theory for Integrating Institutional Logics: A New Model for Social Entrepreneurship Learning and Education	Zhu, Y. Rooney, D. Phillips, N.	2016	Academy of management learning & education 15(3):607-625
34	Research on Factors Influencing University Students' Entrepreneurial Intention and Model of Entrepreneurship Education	Yang, J. Jin, X. Zhou, L.	2018	9th International Conference on Information Technology in Medicine and Education: 567-571
35	Rethinking competition-based entrepreneurship education in higher education institutions: Towards an effectuation-informed coopetition model	Watson, K. McGowan, P.	2019	Education and Training 62(1):31-46
36	Rural entrepreneurship and transformation: The role of learnerships	Koyana, S. Mason, R. B.	2017	International Journal of Entrepreneurial Behaviour & Research 23(5):734-751
37	Social representations of entrepreneurship: The role of training in the acquisition of entrepreneurial skills	Parreira, P. M. Pereira, F. C. Arreguy-Sena, C. Salgueiro-Oliveira, A. Tosoli, A. Marcos. G. Marques, S. C. Melo, R. C. Fonseca, C. Carvalho, C. Mónico, L. S. de Oliveira, D. C.	2015	Revista Ibero-Americana De Saúde E Envelhecimento (RAISE) 1(3):248-266

#	Article title	Author	Year	Source
38	The benefits and challenges of enterprise education: Results from an action research project in the third grade in Finnish basic education	Elo, J.	2016	Educational Action Research 24(4):535-549
39	The Business Model Approach in Entrepreneurship Education: Impact on Undergraduates' Enterprise Potential	García-Rodríguez, F. J. Gutiérrez-Taño, D. Ruiz-Rosa, I.	2017	Mediterranean Journal of Social Sciences 8(3):11-17
40	The Construction Of "The Whole-Course and Personalized" Comprehensive Entrepreneurship Education Model	Wang, J. Chen, C.	2013	6th International Conference on Information Management, Innovation Management and Industrial Engineering 3:45-50
41	The effect of entrepreneur mentoring and its determinants in the Chinese context	Ting, S. X Feng, L. Qin, W.	2017	Management Decision 55(7):1410-1425
42	The lab studio model: enhancing entrepreneurship skills in higher education	Heikkinen, K. P. Stevenson, B.	2016	International Journal of Innovation and Learning 20(2):154-168
43	The role of entrepreneurship education and training programmes in advancing entrepreneurial skills and new ventures	Galvão, A. Marques, C. Ferreira, J. J.	2020	European Journal of Training & Development 44(6/7):595-614
44	The use of a serious game in entrepreneurship teaching	Charrouf, Y. Janan, M. T.	2019	Education and Information Technologies 24(6):3841-3854
45	Using innovative pedagogies in the classroom	Cardow, A. Smith, R.	2015	Industry and Higher Education 29(5):361-374
46	What are the antecedents of women's entrepreneurial orientation?	Santos, G. Marques, C. S. Ferreira, J. J. M.	2018	International Entrepreneurship and Management Journal 14(4):807-821

#	Article title	Author	Year	Source
47	Which Role Model Is More Effective in Entrepreneurship Education? An Investigation of Storytelling on Individual's Entrepreneurial Intention	Feng, L. Jiangshui, M. Ran, L.	2019	Frontiers in Psychology 10:1-15
48	Who is shaping entrepreneurial experience? A multiple case study of Chinese entrepreneurial learning	Zheng, W. Z. Xu, M. M. Chen, X. C. Dong, Y.	2017	Management Decision 55(7):1394-1409
49	Can entrepreneurship be taught to vocational students?	Volery, T. Oser, F. K. Müller, S. Näpflin, C. Del Rey, N.	2014	Becoming an Entrepreneur, 161–176
50	Developing an Entrepreneurship Model to Increase Students' Entrepreneurial Skills: An Action Research Project in a Higher Education Institution in Indonesia	Blesia, J. U. Iek, M. Ratang, W. Hutajulu, H.	2019	Systemic Practice and Action Research 34:53-70
51	Entrepreneurship Education through Successful Entrepreneurial Models in Higher Education Institutions	Boldureanu, G. Ionescu, A. M. Bercu, A. Bedrule-Grigoruta, M. V. Boldureanu, D.	2020	Sustainability 12:1-33
52	Expanding Australian Indigenous Entrepreneurship Education Ecosystems	Maritz, A. Foley, D.	2018	Administrative Sciences 8(2):1-14
53	Extension Priority Evaluation Extension Model for Quality Evaluation of Innovation and Entrepreneurship Education	Zhou, Y. Y. Wu, L. L.	2019	Journal of Advanced Computational Intelligence and Intelligent Informatics 23(2):242-247

#	Article title	Author	Year	Source
54	Training Entrepreneurial Competences with Open Innovation Paradigm in Higher Education	Iglesias-Sánchez, P. P. Jambrino-Maldonado, C. de las Heras-Pedrosa, C.	2019	Sustainability (Switzerland) 11(17):1-23
55	Data Mining in Entrepreneurial Competencies Diagnosis	Czyzewska, M. Mroczek, T.	2020	Education Sciences 10(8):1-17
56	Integrating Innovation and Entrepreneurship Principles into the Civil Engineering Curriculum	Beiler, M. R. O.	2015	Journal of Professional Issues in Engineering Education and Practice 141(3):4014014-1to4014014-8
57	Are the Intentions to Entrepreneurship of Men and Women Shaped Differently? The Impact of Entrepreneurial Role-Model Exposure and Entrepreneurship Education	Entrialgo, M. Iglesias, V.	2017	Entrepreneurship Research Journal 8(1)1-14
58	Intention-based models of entrepreneurship education	Liñán, F.	2004	Piccola Impresa/Small Business 3:11-35
59	Measuring the effectiveness of the Women Entrepreneurship Programme on potential, start-up, and established women entrepreneurs in South Africa	Botha, M. Nieman, G. van Vuuren, J.	2007	South African Journal of Economic and Management Sciences 10(2):163-183
60	The design and implementation of virtual network platform of University entrepreneurship education based on B/S model	Wang, T.	2016	International conference on intelligent transportation, big data and smart city: 281-284

Source: Own compilation

Assessing the quality

It is a good SLR practice to evaluate the quality of the primary study together with the inclusion and exclusion criteria (CRD, 2009:33; Kitchenham, 2007:20,21; Weiss, 2002:43,44):

- The evaluation can help to further refine the inclusion and exclusion criteria.
- To determine whether quality differences explain the variation in study findings.
- This is a method of understanding the importance of individual studies when findings are synthesised.
- To direct the interpretation of the findings and establish the strength of the conclusions.
- Serve as a guide for recommendations for future research.

The Cohen's kappa method should be used to measure the degree of agreement where two or more researchers assess an article (Wang *et al*., 2019:1-3). In cases where there is no agreement, the differences must be discussed and resolved. Consensus can be reached by referring back to the protocol or it may mean that more information needs to be obtained from the authors of the article (Wang, 2019:1-3). If there is uncertainty about the inclusion or exclusion of certain studies, it should be investigated using sensitivity analysis (Kitchenham, 2007:20; Weiss, 2002:43). A Cohen’s kappa was calculated for the inclusion and exclusion of the documents for data extraction. Additionally, an author map was created to ascertain which were the key authors in the field.

Figure 3.4: Author map of articles included for data analysis



The authors with multiple publications in the field of EE are those in larger font (Figure 3.4). After the validation of the documents, the researcher could proceed with the extraction, synthesis, and classification of the data.

Extracting, synthesising, and classifying the data

The data extraction phase aims to create data extraction forms to exactly record the information obtained from the primary studies. Data extraction forms ought to be piloted and defined when the study protocol is defined (Kitchenham, 2007:29). The 60 documents were uploaded in PDF format in Atlas.ti 9 ™, and the four-stage coding approach was executed. Table 3.7 outlines the four-stage coding approach used to extract, synthesise and classify the data.

Table 3.7: Stages of coding

Stage of coding	Approach
First stage coding	Deductive codes based on theoretical concepts and inductive codes derived from the research items. Combining segments together contributed to the creation of an index, as a first attempt to identity areas of interest to the research question (Silver & Lewins, 2014).
Second stage coding	Group codes into higher order categories (code groups) (Silver & Lewins, 2014), while considering the terms that occurred frequently in the research items, to ensure alignment with social sciences constructs (Britten *et al.*, 2002).
Third stage coding	Revisit the codes and code groups to structure themes (smart code groups).
Fourth stage coding	Outputs of data in visual and textual format.

Source: Kitchenham (2007:29)

The content analyses process started with the use of deductive methods to identify the themes of the: numerous existing EE programmes, range of the entrepreneurial programmes, the substance of entrepreneurial programmes and policies and legislation that influence EE. The deductive reasoning process allowed the researcher to move from a logical pattern that is theoretically envisaged to the observation phase that test the occurrence of the pattern (Neuman, 2011:69). Inductive coding of the chosen EE connected articles was performed. As a first step, the researcher identified meaning units, which is deemed as information or ideas able to function independently (Côté *et al.*, 1993:134). During this meaning unit identification phase, the researcher created well-defined and meaningful codes and created a clear definition of the code construct (DeCuir-Gunby *et al.*, 2011:143; Neuman, 2011:70). The specific occurrence of the identified meaning units and the process of creating the codes were used in the inductive process to make inferences about the total meaning units and codes, after which the codes were classified under the existing themes (DeCuir-Gunby *et al.*, 2011:146).

Two or more independent researchers should perform the data extraction where possible. The data of the researchers should be compared, and differences should be sorted out by consensus or by arbitration by an independent researcher. If there are any primary studies on which no agreement can be reached, the study should be examined as part of a sensitivity analysis. Errors or disagreements must be recorded on a separate form (Kitchenham, 2007:33). Where time and resource constraints cause multiple researchers to review different primary studies instead of at least two researchers reviewing all primary studies, a method must be implemented to ensure

that the researchers were consistent with data extraction so that inter-researcher consistency can be assessed (Kitchenham, 2007:33).

In cases where there is a single researcher, for example, a PhD student, other techniques must be used to confirm the consistency of data extraction. The supervisor may be asked to perform data extraction on a random selection of the primary study and compare the findings with the student's data (Kitchenham, 2007:33). The researcher and the supervisor checked the analysis and merged several of the codes to align with the objective. Afterwards, the reliability of the data analysis process was established by using Cohen's kappa (Figure 3.8).

Table 3.8: Cohen's kappa ratings

The Cohen's kappa coefficient statistic vary from 0 to 1, with:	Explanation of rating
0	Agreement equivalent to chance
0.1 – 0.20	Trivial agreement
0.21 – 0.40	Fair agreement
0.41 – 0.60	Modest agreement
0.61 – 0.80	Considerable agreement
0.81 – 0.99	Near-perfect agreement
1	Perfect agreement

Source: Kitchenham (2004:3)

The calculated Cohen's kappa number is 0.62903226, which equates to a near-perfect agreement of 82.61% (Annexure 2). Peer-coding and Cohen's kappa were used to confirm the trustworthiness of the data. Trustworthiness is about establishing the following four things (McMillan & Schumacher, 2010:379):

i. Credibility — the use of triangulation to confirm that the findings are true and accurate.

ii. Transferability — can the research finding be applied to other contexts?

iii. Confirmability — to which degree is the research findings neutral? Are the research findings free of personal bias and motivations of the researcher?

iv. Dependability — to what extent would the research finding be consistent if repeated by other researchers (Neuman, 2003:179;285). The peer-coding process was captured, amendments were made before the findings were presented, and finalised the interview schedule.

3.4.3.3 Stage 3: Reporting the review

The findings of the SLR are usually communicated in the following two formats to ensure effective communication (CRD, 2009:77; Kitchenham, 2007:39,40): (i) a part of a PhD thesis or a technical report and (ii) in a conference paper or a journal.

When published in a journal or conference paper, the size restrictions can cause all the detail not to be published. To ensure that readers can properly evaluate the SLR in terms of validity and rigour, the journal should refer to a thesis or technical report that contains all the details (CRD, 2009:77,78; Kitchenham, 2007:40). This SLR report is in the form of a literature review.

Structure for systematic review

Table 3.9 outlines the structure of the literature review for the document analysis. Upon the completion of the analyses of the 60 articles in Atlas.ti 9 ™, the following smart code groups, code groups and codes were conceptualised to present the findings of Phase I of the interpretivist study.

Table 3.9: Codes, code groups and smart groups

#	Codes	Code Groups	Smart Groups
1	Entrepreneurship Education (including the art and science of entrepreneurship)	EE Including the knowledge, skills (technical and soft) and execution	Overview of Entrepreneurship Education training and development
2	Entrepreneurial Process, Entrepreneurial Teaching & Training	EE Including the knowledge, skills (technical and soft) and execution	Overview of Entrepreneurship Education training and development
3	Entrepreneurship Education & Teaching Framework / Model Development	Entrepreneurship Education Frameworks, Models and Curriculum Development	Overview of Entrepreneurship Education training and development
4	Entrepreneurship and Curriculum Development - (Include business training aspect)	Entrepreneurship Education Frameworks, Models and Curriculum Development	Overview of Entrepreneurship Education training and development
5	Continuous Entrepreneurial Learning	Approaches to Entrepreneurial training and development	Entrepreneurship training and development

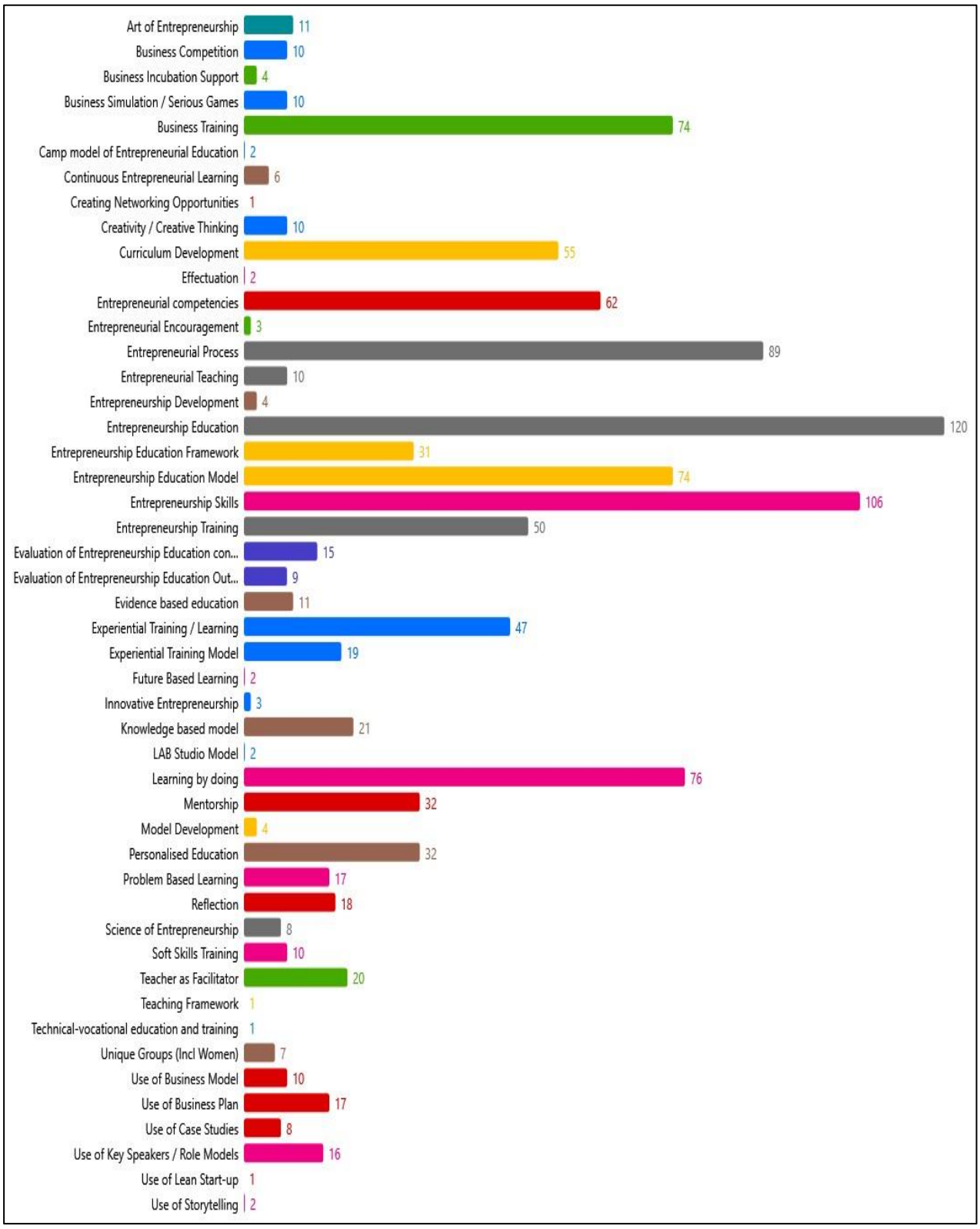
#	Codes	Code Groups	Smart Groups
6	Knowledge and evidence-based model for entrepreneurial training and development	Approaches to Entrepreneurial training and development	Entrepreneurship training and development
7	Personalised entrepreneurial training and development for unique groups	Approaches to Entrepreneurial training and development	Entrepreneurship training and development
8	Entrepreneurship Skills	Entrepreneurial training and development strategies	Entrepreneurship training and development
9	Future-based Learning	Entrepreneurial training and development strategies	Entrepreneurship training and development
10	Problem-based learning	Entrepreneurial training and development strategies	Entrepreneurship training and development
11	Learning by doing	Entrepreneurial training and development strategies	Entrepreneurship training and development
12	Soft Skills Training	Entrepreneurial training and development strategies	Entrepreneurship training and development
13	Use of Key Speakers, role models and storytelling	Entrepreneurial training and development strategies	Entrepreneurship training and development
14	Entrepreneurial training and development facilitation	Entrepreneurial training and development support	Entrepreneurship training and development
15	Business Incubation Support and Entrepreneurial Encouragement for entrepreneurial training and development	Entrepreneurial training and development support	Entrepreneurship training and development
16	Camp Model of Entrepreneurial Education	Entrepreneurial tools	Initial Entrepreneurial Framework
17	LAB Studio Model	Entrepreneurial tools	Initial Entrepreneurial Framework
18	Use of business competition, business simulation and serious games for entrepreneurial training and development	Entrepreneurial tools	Initial Entrepreneurial Framework
19	Creativity, creative thinking and innovative entrepreneurship for entrepreneurial training and development	Entrepreneurial tools	Initial Entrepreneurial Framework

#	Codes	Code Groups	Smart Groups
20	Experiential training model, experiential training and learning for entrepreneurial training and development	Entrepreneurial tools	Initial Entrepreneurial Framework
21	Evaluation of Entrepreneurship Education Content and outcomes	Evaluation of EE model outcomes	Analyses of entrepreneurship education content and model outcomes
22	Creating Networking Opportunities	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
23	Entrepreneurial competencies	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
24	Mentorship	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
25	Reflection	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
26	Use of Business Model, lean start-up or business plan for entrepreneurial training and development	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
27	Use of Case Studies	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
28	How to access funding	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
29	Use of digital tools, online and social media	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
30	Hybrid Learning Model	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
31	Effectuation	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
32	Financial management Training	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development
33	Understanding Contracting and Legal requirements	Existing Entrepreneurial Development Strategies	Framework for entrepreneurial training and development

Source: Own Compilation

Figure 3.5 shows the contents and structure of the SLR report and the frequency of the codes in Atlas.ti 9 ™.

Figure 3.5: Contents and structure of SLR report (Adapted from Kitchenham (2007))



Source: Own compilation in Atlas.ti 9 ™

Figure 3.5 shows the key codes that were identified in the SLR. The most prominent codes identified in the SLR include:

- • Business training: this include skills training like problem- solving, decision-making, planning, communication, delegation, marketing, market research, customer discovery, customer service, financial management and time management that are required to run a business successfully.
- • Entrepreneurship education: this include both the art and science of entrepreneurship, entrepreneurship education model (A systematic framework of entrepreneurship education is needed as a structured guideline to conduct the mapping of existing learning and institutional supports).
- • Entrepreneurial process: this involves the steps that an entrepreneur takes in order to create a new business. The entrepreneurial process can be divided into four phases: (1) Identify and evaluate the business opportunity, (2) develop a business plan or model, (3) establish and evaluate the resources required, (4) company formation and growth.
- • Entrepreneurship skills: this Include creativity, innovation, the ability to take risk (calculated risk), plan and manage projects, business management skills, communication skills, teamwork and leadership.

Learning by doing: this involves experiential learning and action learning.

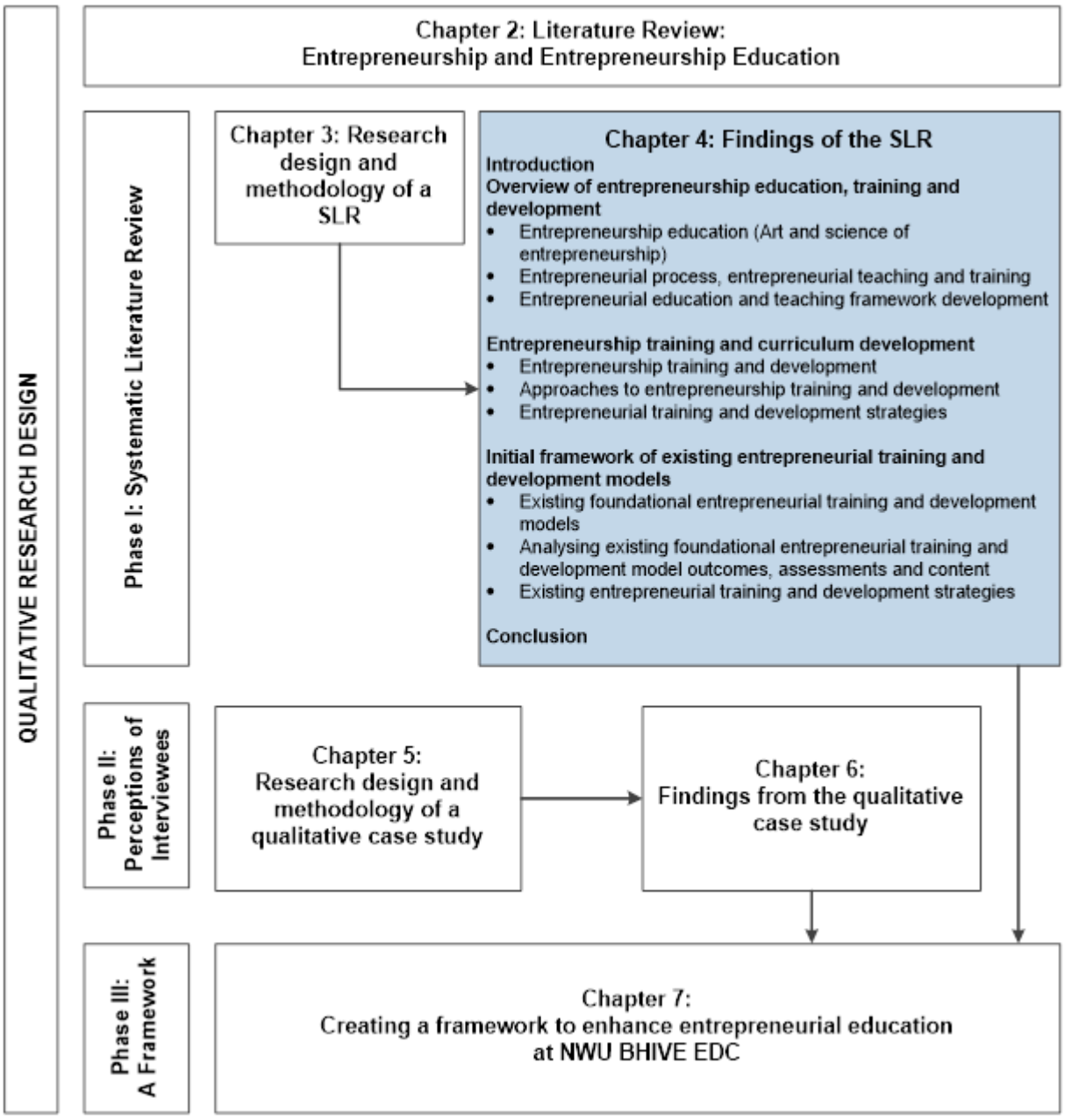
3.5 CONCLUSION

The research design and methodology of the SLR chapter provide an overview of the paradigms of research and the first phase of the research. A summary of the description of the four assumptions of the interpretivist paradigm in which this research was rooted. Furthermore, it unpacked the SLR that was conducted to address the research objective of Phase I of the interpretivist research.

The SLR process consisted of three stages that commenced with planning the review, then conducting the review and finally reporting the review findings. Additionally, the chapter explains the importance of documenting the research findings and how the quality of the primary study was evaluated through peer review with the predetermined inclusion and exclusion criteria. When reporting the findings of the SLR, all the study details should be included to enable readers to properly evaluate the SLR. Chapter 4 reports on the findings of the SLR.

CHAPTER 4
PHASE I MODELS FOR ENTREPRENEURIAL TRAINING AND DEVELOPMENT FOR UNDERDEVELOPED COUNTRIES

Figure 4.1: Research design and methodology: A Qualitative case study

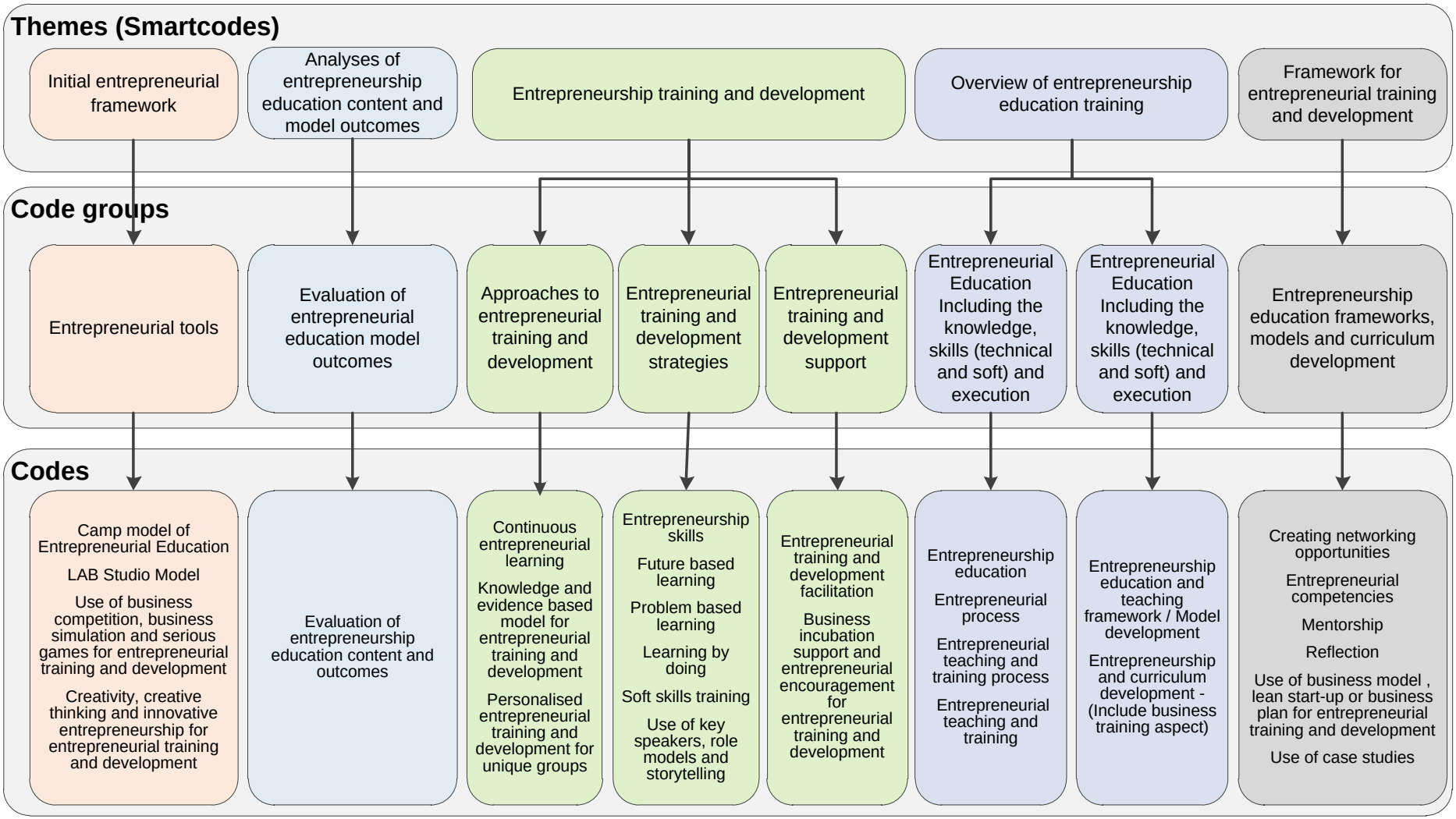


Source: Own compilation

4.1 INTRODUCTION

This study aimed to develop a framework for enhancing EE at the bhive EDC of the NWU, by conducting a SLR and obtaining feedback from EWP participants who completed the programme (Figure 4.1). Chapter 4 reports and interprets the SLR. The SLR identified 32 codes (Annexure 1) in the analyses of 60 documents. The 32 codes were grouped into eight code groups and five smart code groups (§ Chapter 3) and (Figure 4.1). This chapter unpacks the findings of the SLR on the existing models for entrepreneurial training in developed and underdeveloped countries as well as the requirements for sustainable EE programmes. The key themes which are unpacked in this chapter include (4.2) overview of entrepreneurship education models, (4.3) entrepreneurship training and development, (4.4) initial framework of existing entrepreneurial training models, (4.5) initial EE framework from the findings of the SLR.

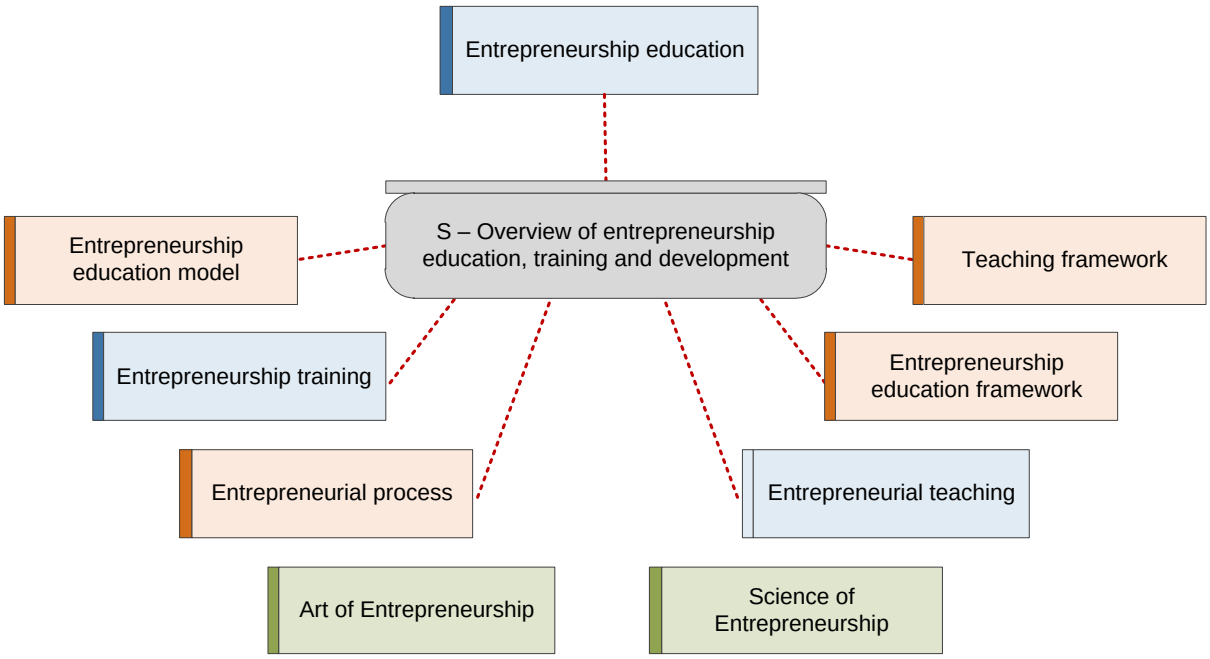
Figure 4.2: Findings from Phase I systematic literature review



4.2 OVERVIEW OF ENTREPRENEURSHIP EDUCATION, TRAINING AND DEVELOPMENT

The components of EE, training and development identified in the SLR are shown as a schematic representation in Figure 4.3.

Figure 4.3: Overview of entrepreneurship education, training and development



Source: Own compilation in Atlas.ti 9 ™

The components of EE, training and development are discussed in detail below.

4.2.1 Entrepreneurship education (art and science of entrepreneurship)

The overarching theme of the SLR is EE, which includes the art and science of entrepreneurship. Entrepreneurship education is defined as the transfer of competencies and knowledge about discovering, assessing and utilising opportunities to create goods and services. Knowledge transfer and the facilitation of the knowledge conception process are essential components of EE (Zheng *et al.*, 2009:1-2). Both the art and science of entrepreneurship are included in EE. Entrepreneurship education plays a critical role in developing and orientating aspiring entrepreneurs by providing the requisite mixture of skills, knowledge and aptitude to start and operate new businesses (Li, 2011:2-3). The art of entrepreneurship focuses on the more creative functions such as innovation and creative

thinking, and reflection on their own experience (Li, 2011:2-3; Lindberg *et al.*, 2017:775-776). The science of entrepreneurship focus on the entrepreneurial process and business training (Henry & Treanor, 2012:494-495; Zheng *et al.*, 2009:1-2). The following paragraph discusses the entrepreneurial process, entrepreneurial teaching and training

4.2.2 Entrepreneurial process, entrepreneurial teaching and training

The entrepreneurial process refers to planning, launching and building a new business (Duke Fuqua School of Business, 2021). Components of the art and the science of entrepreneurship are included in the entrepreneurial process (Zheng *et al.*, 2009:1). The entrepreneurial process consists of several steps that follow one another. There are various opinions on the entrepreneurial process and its many steps (Barraza, 2021; Bell, 2020:3; Lourenço & Jayawarna, 2011:238; Sutevski, 2021). Some authors are proponents of four steps, while others suggest five, six or seven steps for the entrepreneurial process. The steps suggested by the respective authors have several similarities. Barraza (2021) suggests four steps: (1) idea generation; (2) business planning and decision-making; (3) creation of the business project; and (4) control and management of the business. Sutevski (2021) propose a seven-step entrepreneurial process: (1) research, (2) analyse, (3) conclude (4) plan (5) apply (6) measure and (7) improve. Although authors cannot agree on the number of steps in the entrepreneurial process, they do agree that the process must be broken down into different steps for more effective learning (Lourenço & Jayawarna, 2011:238). Role models and mentors play an important role in the entrepreneurial process.

Boldureanu *et al.* (2020:5) argue that role models can play different roles through the various stages of the entrepreneurial process as facilitators, innovators and advisers to make the process of becoming an entrepreneur more credible. Facilitators and mentors can add value by using a more generic rather than a more specific entrepreneurial process to expose aspirant entrepreneurs to diverse contexts in terms of skills and learning support (Bell & Bell, 2016:6). The aim of EE, teaching and training must be to integrate the skills and characteristics of the potential entrepreneur with the entrepreneurial process and associated behaviour and allow entrepreneurs to learn by doing (Bell, 2020:2-3; Li, 2011:2). Aspirant entrepreneurs require training to understand the entrepreneurial process fully.

Entrepreneurship teaching and training can be defined as a structured programme to prepare potential entrepreneurs with the mindset and the skill set to identify a business concept and launch a new venture (Ho *et al.*, 2018:1; Mohan & Revathi, 2012:5; Peterman & Kennedy, 2003:131,140-141). The entrepreneurship training includes imparting obligatory knowledge,

developing managerial, financial, technical, and marketing skills, and building entrepreneurial attitude (Ho *et al.*, 2018:1; Mohan & Revathi, 2012:5; Peterman & Kennedy, 2003:131,140-141).

The different approaches to EE and training are discussed in detail in Paragraph 4.3.1. As EE and training need to be adaptable to consider the needs of the participants, it is necessary to develop a framework to assist facilitators in developing training programmes. The following paragraph discusses the development of an EE framework.

4.2.3 Entrepreneurship education and teaching framework development

A framework is defined as a conceptual or real structure that is envisioned to serve as a benchmark or support for building something that expands the structure into something useful (Lutkevich, 2020). Therefore, an EE and training framework can be defined as a conceptual structure intended to guide creating EE and training programmes (Lutkevich, 2020). Entrepreneurial training curriculum development is discussed in the following paragraph. Embedded in the education and training framework is the curriculum development process.

4.2.4 Entrepreneurship training and curriculum development

Curriculum refers to the subjects that make up a course (Alvior, 2014; Skyepack., 2020; Stutt, 2021). The curriculum has both elements of a process category and a product category. The product category focuses on the findings, while the process category has a broader focus on the learning process, and both should receive attention during the curriculum development process (Alvior, 2014; Skyepack., 2020; Stutt, 2021). Curriculum development is a purposeful, planned, systematic and progressive process to make positive adjustments to an educational programme or system. Therefore, developments or changes in the world can impact the needs of people and should be reflected in the education system and the curriculum. Therefore, curriculum development must be managed as a continuous improvement process (Alvior, 2014; Skyepack., 2020; Stutt, 2021).

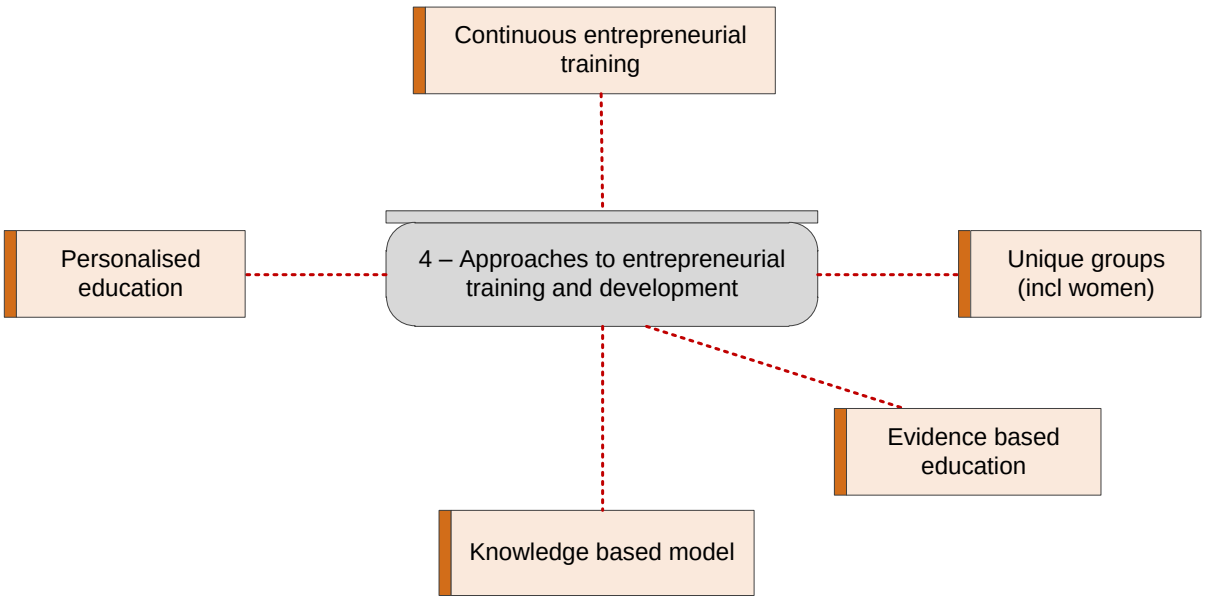
The efficacy of EE is accomplished via positive behavioural outcomes that form part of the process category of curriculum development rather than just through the didactic learning outcomes (Quach *et al.*, 2020:2). Curriculum developers need to focus on developing courses for a specific group rather than following a more general approach (Quach *et al.*, 2020:2-4,10). Educators must design content and methods that target competencies and skills like (1) problem-solving skills, (2) specific learning methods, (3) critical thinking skills, (4) decision-making methods, (5) innovation methods, (6) business plan or business model, (7) importance

of teamwork, (8) leadership skills, (9) entrepreneurial finance and law (Henry & Treanor, 2012:2-3; Nugraheni *et al.*, 2019:5-8; Quach *et al.*, 2020:5; Rodríguez-López & Souto, 2019:2; Sherkat & Chenari, 2020:6,18; Zheng *et al.*, 2009:2-4). Competencies and skills alone are not enough. The entrepreneurship learning process entails exposure to and engagement with the complicated stages of the entrepreneurial process using experiential learning methods. Research highlights the benefits of an experiential approach, which include mentoring, idea development and product pitches (Bell & Bell, 2016:3). Paragraph 4.3.1 will discuss different approaches to entrepreneurship training and development.

4.3 ENTREPRENEURSHIP TRAINING AND DEVELOPMENT

4.3.1 Approaches to entrepreneurship training and development

Figure 4.4: Shows the components of the approaches to entrepreneurship training



Source: Own compilation in Atlas.ti 9 ™

The different components of the approaches to entrepreneurship training are discussed in the following sections, starting with the discussion of continuous entrepreneurial training and development (Figure 4.4).

4.3.1.1 Continuous entrepreneurial training and development

Continuous training or learning is an ongoing process of constantly expanding knowledge to gain new expertise and skills. Several articles included in the SLR confirm the continuous

nature of EE (Osorio & Cordero, 2014:173; Wang & Chen, 2013:47-48; Wang, 2016:281; Zheng *et al.*, 2017:1395). The articles conclude that EE should focus on entrepreneurs in the start-up phase and include entrepreneurs with established businesses who want to grow their business to the next level (Osorio & Cordero, 2014:173-174). Osorio and Cordero (2014:175) propose a move away from short (one day) courses to programmes that run over nine months. There are various knowledge and evidence-based models for entrepreneurial training and development to ensure that fit for purpose models can be created for a specific context.

4.3.1.2 Knowledge and evidence-based model for entrepreneurial training and development

Use of Knowledge-based model for entrepreneurial training and development

The knowledge-based model for entrepreneurial training focuses on the participants watching, reading and listening to the study content to obtain information before progressing to the next stage of learning (Gorsky, 2021). Table 4.1 summarises the different types of knowledge.

Table 4.1: Types of knowledge

KNOW – WHAT Part of experience	KNOW-WHO Part of experience	KNOW-HOW Skills
• Organisation • Management • Finance • Marketing • Business • Law	• Networks or people • Venture capitalist company	• Operation and production • Equipment and procedure management • Space management • Supply chain management • Recognition and evaluation of commercial opportunity • Risk management • Relational • Network • Problem-solving

Source: Adapted from Fayolle and Gailly (2012:578)

In line with modern approaches to entrepreneurial training, Osorio and Cordero (2014:175) propose a hybrid-training model that utilises the academic environment as the foundation for the entrepreneurial training while following a non-traditional experiential format that facilitates practical learning by following an action research approach that integrates knowledge-based training, peer networking and experiential learning. The training in the hybrid programme seeks

to present an essential picture of the knowledge where each session is contextualised so that the participants understand how all the sessions fit together (Osorio & Cordero, 2014:184). Traditional knowledge-based training follows a knowledge retention model, where the hybrid model support knowledge education as a tool to complement and support experiential learning (Osorio & Cordero, 2014:185). The hybrid-training model proposes that the training must be offered as a full programme instead of independent sessions (Osorio & Cordero, 2014:204). Galvão *et al.* (2020:609) conclude that the main purpose of EE and training programmes is to instil the necessary knowledge and skills that will allow aspiring entrepreneurs to generate ideas, identify business opportunities, understand customers' needs and perceptions, develop a business plan or model, and start their own business to generate an income. Henry and Treanor (2012:486) propose that EE includes specific knowledge and business skills on starting and running a successful business. Entrepreneurial activity is an important mechanism for knowledge transfer (Henry & Treanor, 2012:486).

The specific knowledge that must be included in EE refers to practical knowledge. Practical knowledge rather than theoretical knowledge is more applicable to the professional dimension of EE. The professional dimension relies mainly on the following three types of knowledge (summarised in Table 4.1) (Fayolle & Gailly, 2012:578):

1. Know-what: How should the entrepreneur act and what should he do in a specific situation, for example: What should the entrepreneur do to do appropriate market research, how is an opportunity validated, and what needs to be done to create a specific type of company (Fayolle & Gailly, 2012:578). Zheng *et al.* (2017:1398) identified six parts of the know-what experience: (1) Organisation, (2) management, (3) finance, (4) marketing, (5) business, (6) law.
2. Know-who: Know which networks or people are interested in a specific situation, for example, which networks or people are important to start a technology company or embark on a particular project or which venture capitalist companies are interested in a particular sector (Fayolle & Gailly, 2012:578).
3. Know-how: Know how to react in a specific situation, such as identifying and mitigating the relevant risks or determining whether a specific project is appropriate for the specific entrepreneur's experience and skill set (Fayolle & Gailly, 2012:578). Zheng *et al.* (2017:1398) identified eight skills incorporated into know-how: (1) operation and production, (2) equipment and procedure management, (3) space management, (4) supply chain management, (5) recognition and evaluation of commercial opportunity, (6) risk management, (7) relational, (8) problem-solving.

Know-how knowledge can be transferred practically using games and business simulation as part of the experiential learning process as these tools aid the learning process by directly applying acquired knowledge (Charrouf & Janan, 2019:3842).

Aspiring entrepreneurs in tertiary education lack know-what, know-who and know-how knowledge. Wang and Chen (2013:48) propose that a specialised EE curriculum must be implemented at universities to be completed over four years. This curriculum should include entrepreneurial knowledge training, mainly to solve the "I know how to create a venture" problem. Entrepreneurs must have solid professional skills and knowledge and mastered marketing, business management, legal and finance knowledge (Wang & Chen, 2013:48). Colleges and universities can lay the foundation for future entrepreneurship by teaching entrepreneurial knowledge via classroom teaching and workshops (Wang & Chen, 2013:48). The study findings by Boldureanu *et al.* (2020:22) suggest that the students' profiles (preferred study methods and preferred business types) need to be considered when the EE course and curriculum are designed. The use of successful role models in the EE approach could be valuable for EE because it provides higher participation and involvement of the students and, at the same time, exposes the students to diverse perceptions of entrepreneurship success (Boldureanu *et al.*, 2020:22). Using the role model method assists students to attain additional entrepreneurial knowledge by becoming more acquainted with numerous circumstances in which people turn into entrepreneurs (Boldureanu *et al.*, 2020:22). In the engagement with role models process, the students learn more about creating business ideas, converting them into business concepts, implementing them, and dealing with obstacles they experience along the entrepreneurial journey (Boldureanu *et al.*, 2020:22). The study's practical implications by Iglesias-Sánchez *et al.* (2019:19) indicate that a global vision of EE should be considered when designing an effective learning process that will allow university students to acquire the relevant knowledge and skills to successfully establish and own a business or enter the job market. EE is a continuous process. The EE for established entrepreneurs differs from the training of aspiring entrepreneurs.

Osorio and Cordero (2014:180) argue that established entrepreneurs prefer problem-centred learning models as their focus is on finding solutions to problems that arise from the day-to-day running of the business. Established entrepreneurs require access to effective experiential learning with a preference for functional knowledge based on critical thinking skills than theoretical learning based on abstract concepts (Osorio & Cordero, 2014:180). The following paragraph looks at evidence-based entrepreneurial training and development.

Use of evidence-based model for entrepreneurial training and development

The evidence-based model for entrepreneurial training and development includes the business plan competition, the use of the Camp Model, and other entrepreneurial training and development models. The following section discusses the business plan competition.

Business plan competition

Evidence-based education refers to effective educational strategies that are supported by research and evidence (Bell & Bell, 2016:1-6). In line with evidence-based education, research by Bell and Bell (2016:1-6) explored the benefits to students who participated in an EE programme that used an experiential teaching approach that included idea development, business plan design, mentoring and product pitches in an extra-curricular competition open to students from all the university faculties. The business plan competition consisted of three phases (Bell & Bell, 2016:1-6):

- Phase 1: All participants complete this stage. Students had to design a business plan in the retail environment with the assistance of mentors and business experts. The best five business plans were selected for Phase II.
- Phase 2: Students had to pitch their business idea to a panel of experts. Only the best idea was selected for Phase III.
- Phase 3: The implementation of the business plan.

Data about the students' experiences, challenges, and lessons were collected via interviews at the end of Phase 1 before the winners were announced, and at the end of Phase 2, after the winner announcement. The winning group was interviewed at the onset of Phase 3 and after completing the retail business experience.

The findings of the research by from Bell and Bell (2016b:10-14) indicate the participants derived the following value from the business plan competition:

- The fact that the experiential learning process made them feel like they are working on a real business plan.
- The process demystifies the process of enterprise start-up.
- Increased their confidence into a more grounded self-efficacy.
- Understanding the importance of good time management and planning skills.
- Learning new problem-solving skills.

- Understanding the importance of planning and management skills.
- The importance of being proactive rather than just reactive when solving problems.
- Communication and negotiation skills

The next paragraph discusses the use of the Camp Model as part of evidence-based entrepreneurial training and development.

Use of the Camp Model for entrepreneurial training and development

Li (2010:1-4) proposes using the Camp Model as an example of a more modern approach to EE. The Camp Model takes students off-campus and mix students from different disciplines in the EE process. The teachers act as facilitators for problem-based learning and future-based knowledge. The underlying pedagogies of the Camp Model include (1) problem-based learning, (2) action learning and (3) future-orientated learning. The Camp Model is discussed in detail in Section 4.4.1.1. The value of the Camp Model should be the focus of continuous research to present concrete evidence of the value of this EE approach (Li, 2010:1-4). The use of other models for entrepreneurial training and development is discussed in the following section.

Use of other models for entrepreneurial training and development

Sherkat and Chenari (2020:1-20) researched the effectiveness of EE programmes in the universities of Tehran province in Iran, focussing on the impact of EE on the implementation intention, goal intention and commitment of university students. Based on the findings of the study and the interviews conducted, Sherkat and Chenari (2020:17) provide the following suggestions:

- Entrepreneurship courses should be included as a compulsory course in all academic fields, even in pre-university programmes, to increase all students' knowledge and basic entrepreneurship skills.
- Entrepreneurial programmes should teach basic entrepreneurial skills and guidance to set up a new business.
- EE programmes should include critical thinking, learning methods, problem-solving, creativity and innovation, decision-making methods, develop a business plan, finance and law.

The entrepreneurial process includes opportunity recognition, resource identification, planning and implementation. The following pedagogical methods should be included in the programme (Sherkat & Chenari, 2020:17):

- Organise entrepreneurial events and competitions at university.
- Use business simulations and games that encourage entrepreneurship and innovation.
- Assist students in establishing real businesses from the first year to motivate students to engage with workshops on entrepreneurial related topics.

Students who participated in distance learning entrepreneurial programmes thought that this approach is ineffective for entrepreneurial training due to the lack of an appropriate level of interaction with other students and experienced facilitators and professors. Universities must create an entrepreneurial climate by developing an entrepreneurial vision for the university and creating an environment that promotes entrepreneurship and motivates students and academics to become entrepreneurs (Sherkat & Chenari, 2020:17).

This study by Fayolle *et al.* (2020:5) explores the different dimensions of science, technology and engineering EE. Fayolle *et al.* (2020:5) propose that the EE programmes should focus on (1) teamwork, (2) project engagement, (3) market knowledge, (4) promoting entrepreneurial skills, (5) developing entrepreneurial values and attitudes. Fayolle *et al.* (2020:5) identified a high level of overlap, a lack of distinctiveness, and a lack of opportunities to gain knowledge and develop experience in specific fields of study between the different programmes.

Fayolle *et al.* (2020:8) conclude that the choice of pedagogy (active learning, co-operative learning, and experiential learning) appears to be the most proficient way to design a curriculum for technology entrepreneurs. The research shows that it is important to consider student differences when creating learning/teaching models (Fayolle *et al.*, 2020:8).

Arthur and Adom (2020:723) conducted an explorative study on two EE programmes. The findings of the study can be summarised as follows:

Programme 1:

- Programme 1 used outside facilitators with experience in business and entrepreneurship.
- Facilitators were allowed to incorporate real life and up to date experiences into EE.
- As a result, the facilitators play a role in knowledge delivery and coaches and role models.

- This programme did not provide for beneficiary engagement with each other. This was regarded as a shortfall in the programme.

Beneficiaries found the following topics of the EE programme helpful (Arthur & Adom, 2020:723):

- Financial literacy
- Business management skills
- Personal entrepreneurial skills

Programme 2:

- This programme did not use outside facilitators with experience in business and entrepreneurship.
- The programme practices supported constructivism theory, where the classroom boundaries shifted into an action-based EE programme that includes learning in a group context.
- This institution preferred the didactic approach to entrepreneurial training. This approach promotes active participation by beneficiaries, supporting each other as peers in the entrepreneurial journey.

Beneficiaries from Programme 2 identified adequate support for idea generation. However, they had a problem because the programme did not support the beneficiaries financially (Arthur & Adom, 2020:723).

- Research conducted by Zeng and Honig (2016:239) shows:
- There is limited empirical data to link a business plan (business planning) and the subsequent performance.
- The development of a comprehensive business plan can be a helpful tool to confirm the viability of the business idea or the need to pivot. Measuring the process from business plan to successful business would be very difficult from a pedagogical angle.
- The challenges in using a business plan resulted in the development of new approaches like the BMC and lean start-up. Unfortunately, the BMC and lean start-up are not built on a solid theoretical foundation. The core concepts of lean start-up (running test on learning from customer experience) imply that lean start-up may be connected to experiential learning theories. More rigorous research is required to examine the framework, scope and

connection to theories. Many researchers believe that evidence-based practices in the education field can assist in creating a culture where evidence carries more weight than subjective opinion.

The action research conducted by Elo (2016:536-537) illustrates that the terms enterprise education and EE are problematic concepts to a certain extent. The terms are discussed and used in both economic and educational perspectives, but there is no consistent and clear use of these concepts in either the educational or economic field. According to Elo (2016:536-537), the research on EE in Finland and Sweden has suffered from the lack of entrepreneurial perspective. Elo (2016:536-537) argues that while the aims of enterprise education have been clearly described, the underlying pedagogical ideas are still vague.

The interest in innovative and alternative pedagogies in EE spheres are growing (Cardow & Smith, 2015:362). The increased interest in alternative pedagogies led to the introduction of the experiential approach of using storytelling as a device to change the student's attitudes and mindset about entrepreneurship (Cardow & Smith, 2015:362). Jack and Anderson (1999:111) reflected on the mysterious character of entrepreneurship and whether entrepreneurship could be taught. Because entrepreneurship involves both art and science, students need to learn more than just managerial skills (Cardow & Smith, 2015:362; Jack & Anderson, 1999:111). The next paragraph discusses personalised entrepreneurship training and development for unique groups.

4.3.1.3 Personalised entrepreneurial training and development for unique groups

General EE programmes follow a one-size-fits-all approach to entrepreneurship training (Fayolle, 2013:695-699). The study by Quach *et al.* (2020:117) proposes that a tailor-made EE approach is required to improve the efficiency and effectiveness of EE programmes for specific types of entrepreneurs. More recent studies indicate that there has been a too high reliance on an overarching general approach to entrepreneurship training (Quach *et al.*, 2020:118). Many of these programmes relied on an “inside-out” teaching methodology. This approach focuses on planning inside the organisation, establishing what is available inside the organisation, before attempting to provide “outside” the organisation (Quach *et al.*, 2020:118). This approach does not accommodate the specific needs of specific or specialised entrepreneurial groups (Quach *et al.*, 2020:118).

The study by Fayolle (2013:697-698) proposes the need for an “out of the box” approach in tailoring EE programmes for specific target groups to develop a greater understanding of entrepreneurship competencies and soft skills. There is a need to apply new theoretical

perspectives in EE and to develop good evaluation processes (Fayolle, 2013:695-699). The evaluation phase involves the measurement of the objective specific outcomes (Quach *et al.*, 2020:119). According to Fayolle (2013:697-699), dimensions connect and reflect, and the measured outcomes reflect the emotions and behaviours experienced, therefore, providing rich information that can be utilised to determine the effectiveness of the EE tactics (Quach *et al.*, 2020:120).

The use of experiential and non-traditional learning environments in higher education has seen increased support from academics (Bell & Bell, 2016:3; Wang & Chen, 2013:47-48; Zheng *et al.*, 2017:1404). The study by Bell and Bell (2016:3) explores the benefits of using an experiential approach for students. The approach includes idea development, business plan design, mentors and product pitches in a competition setting (Bell & Bell, 2016:3). Iglesias-Sánchez *et al.* (2019:1-18) propose the use of experiential learning tools like (Table 4.2):

Table 4.2: Proposed experiential learning tools

Experiential learning tools	
Role-play	Allows students to explore realistic situations by interacting with each other through role-play.
Hackathons	Focus on solving practical problems that require a great deal of energy, determination and the use of cross-disciplinary teams.
Team building	Process assists groups of people to work better in teams by participating in activities and events designed to promote co-operation and motivation.
Practical case study with an existing entrepreneur	This method involves the in-depth study of an actual case with all the contextual conditions.

Source: Adapted from Iglesias-Sánchez *et al*. (2019:1-18)

The experiential learning tools are discussed in more detail in Paragraph 4.3.2.3. The next paragraph discusses the EE programme for Civil Engineering students.

Entrepreneurship education for Civil Engineering students

Chenghao *et al.* (2019:88) conclude that the focus must shift to carrying out personalised EE instead of traditional passive education to fully utilise students' interests. The article by Beiler (2015:1-8) highlights the EE programme designed for Civil Engineering students designed by the Kern Family Foundation. The Civil Engineering student's EE programme proposes the use and teaching of the following elements (Table 4.3):

Table 4.3: Entrepreneurship education programmes should include the following elements

PROPOSED USE AND TEACHING ELEMENTS
Innovation
Competitions
Entrepreneurial thinking
Critical thinking
Leadership
Ethics
Sustainability
Risk management

Source: Adapted from (Beiler, 2015:1-8)

Students are encouraged to think outside of the box to find entrepreneurial solutions (Beiler, 2015:1-8). The EE programme by Lindberg is discussed in the following paragraph.

Entrepreneurship education programme proposed by Lindberg

In the EE programme proposed by Lindberg *et al.* (2017:773), the last component consisted of student lectures where the instructor coached rather than directed the learning process. Students applied action-based, self-directed and problem-based learning. Students could choose between themes like social entrepreneurship, green entrepreneurship and innovation (Elo, 2016:536-537; Lindberg *et al.*, 2017:773). The EE programme for art tourism is discussed in the next paragraph.

Entrepreneurship education for art tourism

Nugraheni *et al.* (2019:199) evaluated EE programmes in the context of developing an art education tourism programme. This art education tourism programme intends to develop the student's entrepreneurial skills in the context of managing an art education tourism programme. Nugraheni *et al.* (2019:199) consider entrepreneurial skills as being of utmost importance to the success of students in the tourism industry. Entrepreneurship centres at universities are discussed in the following paragraph.

Entrepreneurship centres at universities

Initially, the entrepreneurship centres linked to universities followed more traditional EE models focussing on external activities such as teaching and learning (Osorio & Cordero, 2014:173). The activities took place in the university context focussing on the early stages of entrepreneurship and executive education. Recently more entrepreneurship centres took a different approach to education and training and started developing support programmes for entrepreneurs with established businesses (Osorio & Cordero, 2014:173). These programmes leverage the university educational context with external instructors, consultants, and faculty members (Osorio & Cordero, 2014:173). The next paragraph discusses EE and self-directed learning.

Entrepreneurship education and self-directed learning

In recent years calls have been made to adopt approaches to encourage self-directed learning, active engagement and collaborative peer learning (Arthur & Adom, 2020:718). The study proposes that EE programmes must be targeted at specific groups and that the outcomes of the EE programmes be studied to assist with continuous improvement (Arthur & Adom, 2020:718). EE programmes should include business competencies especially technical skills relevant to the beneficiaries, and the facilitators must be trained in the important skills to act as role models, consultants and counsellors (Arthur & Adom, 2020:718).

It is important to contextualise the EE programmes in terms of the student's gender, country, discipline and sector (Henry & Treanor, 2012:488). This statement is in line with the proposal of Heikkinen and Stevenson (2016:6-13) to use LAB studios with students across disciplines and generations to explore business opportunities, develop products or services and launch a business. It creates an environment where students can practice their professional and entrepreneurial skills. The approach uses coaching teams that include industry experts (Heikkinen & Stevenson, 2016:6-13). The conceptual education framework by Fayolle and Gailly is discussed in the following paragraph.

Conceptual entrepreneurship education framework by Fayolle and Gailly

The contribution of the study by Fayolle and Gailly (2012:585-587) is a conceptual framework in EE that is: (1) inspired by education science, (2) discussed in two levels, namely the ontological as well as the educational levels, (3), not a "one-size-fits-all" approach. Fayolle and Gailly (2012:585-587) highlighted that EE programmes must be grounded in educational

science. EE should be built around the following interrelated key educational questions (Fayolle & Gailly, 2012:585-587):

- Why – The objectives at the socio-economic and learning levels
- What – Contents of the programme
- How – The pedagogies and methods
- For Whom – The target audience
- For Which Result – Evaluation

All EE programmes must be rooted in scientific knowledge (Fayolle & Gailly, 2012:585-587). Zeng and Honig's three EE models are discussed next.

Three entrepreneurship education models by Zeng and Honig

Zeng and Honig (2016:243-265) proposed three models based on the entrepreneurial experience of the students:

Model 1: Students without any entrepreneurship experience

This model is for students with no experience and insufficient knowledge, skills or understanding of entrepreneurship. The model has four components.

Model 2: Students with entrepreneurship experience

This model is for students that previously engaged in business start-up activities. This model has three components.

Model 3: Students who are currently running their own business

Only students that are currently running a business qualify for this model. This model has three components

The research confirmed that entrepreneurship students could not be treated as a standardised grouping, because they have different levels of entrepreneurial experience and different educational requirements (Zeng & Honig, 2016:265-266). EE for women is discussed in the next paragraph.

Entrepreneurship education for women

Swarnalatha and Vasantha (2014:9-12) conducted a study on women entrepreneurship in India. The study concluded that the main reason for women in India to start a business is economic survival. Swarnalatha and Vasantha (2014:9-12) identified the four biggest challenges aspiring women entrepreneurs face (1) lack of education, (2) lack of economic support, (3) lack of technical skills and (4) lack of confidence. Swarnalatha and Vasantha (2014:9-12) concluded that in-depth training for women entrepreneurs to better understand business and skills management and also strengthen their professional competencies in leadership, management, financial, marketing, the production process and financial skills will assist and encourage more women to become entrepreneurs. The following paragraph discusses rural entrepreneurship programmes.

Rural entrepreneurship education programmes

The study of Koyana and Mason (2017:6-7) on rural EE highlights the need to train rural entrepreneurs and special groups like female entrepreneurs to improve critical skills such as marketing, finance, networking and logistics, using experiential learning techniques instead of experiential learning using conventional or formal education. Santos *et al.* (2018:807-814) confirmed the importance of studying female entrepreneurship and understanding the training requirements of female entrepreneurs. The training requirements include opportunity recognition, entrepreneurial skills and management skills (Santos *et al.*, 2018:807-814). Czyzewska and Mroczek (2020:2-18) identify the importance of corporate entrepreneurship. Companies that support entrepreneurial attitudes and initiatives by their employees have better results (Czyzewska & Mroczek, 2020:2-18). The study also revealed that the women surveyed in the study had completely different entrepreneurial competencies than the men in the survey (Czyzewska & Mroczek, 2020:2-18). Entrialgo and Iglesias (2017:11) study's confirms the importance of role models and EE for developing entrepreneurial intent, especially in female entrepreneurs. The study by Botha *et al.* (2007:164) conducted a needs analysis confirmed that aspiring female entrepreneurs prefer an entrepreneurial training programme specifically structured for them. The women identified the following training required: (1) guidance on compiling a business plan, (2) market research, (3) identifying market and business opportunities, (4) advertising and marketing, (5) entrepreneurial skills training, (6) cash flow and financial planning, (7) empowerment opportunities for women, (8) networking opportunities, (9) mentoring and counselling, (10) risk management and (11) taxation (Botha *et al.*, 2007:164). The following paragraph evaluates entrepreneurial training and development strategies.

4.3.2 Entrepreneurial training and development strategies

Subsequently the entrepreneurship skills associated with successful entrepreneurs are outlined.

4.3.2.1 Entrepreneurship skills

The term “entrepreneurship skills” are associated with successful entrepreneurship (Sai *et al.*, 2019:84). The following are examples of entrepreneurship skills (Table 4.4.):

Table 4.4: Identified entrepreneurial skills

Entrepreneurship Skills		
• Creativity and innovation • Critical thinking • Decision-making methods • Entrepreneurship finance and law • Idea generation and concept development • Initiative • Learning methods • Management, administrative and technological skills	• Market knowledge • Market research skills • New opportunity creation • Organisational skills • Problem-solving • Project engagement • Sales and marketing	• Self-confidence • Self-directed learning skills • Self-motivation • Taking calculated risks • Teamwork • Tenacity • Time and financial management • Use of the BMC • Use of the business plan

Source: Adapted from: Fayolle *et al. (*2020:11); Heikkinen and Stevenson (2016:7); Lima and Baudier (2017:174-175); Lindberg *et al. (*2017:776); Sai *et al. (*2019:84); Sherkat and Chenari (2020:5,17); Zeng and Honig (2016:247,251,254); Zheng *et al.* (2009:1-2)

The following skills are considered to be important entrepreneurship skills (Sai *et al.*, 2019:84):

- Identifying the needs of customers
- Market and technical opportunities

There is increased academic support for the use of experiential and non-traditional learning environments to aid the development of entrepreneurial skills (Bell & Bell, 2016:3). The following paragraph examines future-based learning.

4.3.2.2 Future-based learning

Li's proposed “Camp Model” (2010:1-2) implies a changed learning situation. The process starts with an identified problem. This approach forces students to interact, act and work future-orientated by creating new knowledge instead of consuming established knowledge (Li, 2010:1-2). The creation of new knowledge is the core goal to reach learning outcomes (Li, 2010:2).

The Effectuation-informed Business Cooperation (EBC) model proposed by Watson and McGowan (2019:35-36) becomes a method that participants can draw on. The model becomes a part of the participants by highlighting their awareness of their tastes, traits, and competencies, provided through the new professional networks' learning opportunities, experience, expertise, and who they know (Watson & McGowan, 2019:39-40). The participants can utilise the new skills and attitudes in future entrepreneurial activities (Watson & McGowan, 2019:40). The following paragraph appraises problem-based learning.

4.3.2.3 Problem-based learning

By its very nature, the Camp Model uses a problem as the point of departure (Li, 2010:1-2). The model is grounded in the problem-based learning approach and is regarded as the core to EE (Li, 2010:2-3). Instead of knowledge supplied to passive learners, the active learners must solve problems (Li, 2010:2-3). Additionally, entrepreneurs learn by trial and error, problem-solving, learning by doing and discovery (Zheng *et al.*, 2009:3). The practical approach in entrepreneurship training by Zheng *et al.* (2009:3), through problem-based learning, engages the student with the world of work in a small firm.

Osorio and Cordero (2014:175-203) proposed a problem-centered hybrid model that could reduce the failure rate of entrepreneurs once they started a business. This study validates the importance of a problem-based learning approach to experiential learning for entrepreneurs who have already started their business operations (Osorio & Cordero, 2014:175-203). Respondents indicated that they become better entrepreneurs because of the acquisition of management and problem-solving skills, which could positively contribute to their communities (Osorio & Cordero, 2014:175-203). Learning by doing is assessed next.

Table 4.5 summarises the different skills and entrepreneurial teaching methods and tools that are discussed under the learning by doing section.

Table 4.5: Learning by doing skills, teaching methods and tools

Learning by doing	
Skills	**Teaching Methods/ Tools**
• Active involvement • Applying knowledge • Conceptualisation • Creating an actual business • Creative thinking • Develop independence • Entrepreneurial skills • Explore concepts • Leadership • Management skills • Motivation • Negotiation skills • New product development • Overcome failure • Practical application of skills acquired • Problem-solving skill • Reflection • Soft skills • Technological innovation exposure • Testing theory	• Action and experiments • Action learning • Business simulation • Concrete experiences • Mentoring • Use of hackathons • Use of practical case studies • Use of role models • Use of role-playing • Use of storytelling • Use of team building • Video role-plays

Source: Adapted from: Bell and Bell (2016:4-5); Farber *et al.* (2015:347); Li (2011:3); Putta (2014:464)

Entrepreneurship education and action learning

Bell and Bell (2016:4-5) argue that an action learning approach addresses several of the restrictions of traditional EE approaches. The action learning approach increases problem-solving skills and motivation and improves knowledge retention (Bell & Bell, 2016:4-5). Mentors contribute positively to learning and student participation (Bell & Bell, 2016:4-5). The study regarding alternative teaching methods proposed by Putta (2014:464) is in line with the arguments by Bell and Bell (2016:4-5) that students learn through experiments and action, so they are engaged in constructing and owning their learning. Farber *et al.* (2015:347) conclude

that there has been a significant shift to teaching entrepreneurship skills in motivating students to start a real business as part of the experiential learning process. All successful experiential learning activities guide students through the subsequent four processes of the learning cycle: (1) having a substantial experience, (2) reflecting on the experiences, (3) conceptualising the experiences, (4) testing the theory or model (Farber *et al.*, 2015:348). The study by Li (2011:3) deduces that entrepreneurial learning is a process of partaking between entrepreneurial individuals. It is an important requirement that the students actively participate as they are considered to be subjects, actors and doers in the entrepreneurial learning process (Li, 2011:3). The next paragraph discusses EE and learning by doing.

Entrepreneurship education and learning by doing

The Camp Model by Li (2010:2) is an excellent example of learning by doing, where the main learning outcomes for students are: (1) a better understanding of applying disciplinary knowledge to real-life problems, (2) active involvement and pressure lead to fast learning, (3) being trained idea generation and concept development techniques. A key ingredient of the Camp Model is action learning (Li, 2010:3).

Sherkat and Chenari (2020:4,17) propose the inclusion of the following activities into the EE process:

a. Students must be motivated to start real businesses from the first year of the entrepreneurship course.

b. Hosting entrepreneurial events and business competitions.

c. Use business simulations and games as part of the programme.

The following paragraph discusses EE and experience-based learning.

Entrepreneurship education and experience-based learning

Zheng *et al.* (2009:2-4) propose a more active, experience-based learning approach to EE. Students need to be encouraged to find and explore some of the broader concepts, such as learning how to overcome failure, develop independence from external information sources and think for themselves (Zheng *et al.*, 2009:3). EE will be more effective if based on an entrepreneurial process, emphasising opportunity exploration and exploitation and based on real work situations. Practical experience and the reflection process are critical to assisting students in applying the knowledge learned (Zheng *et al.*, 2009:3-4). Jamaluddin *et al.*

(2019:121) concluded that entrepreneurial training must include a theoretical component (academic literature) as well as a practical (practical experiences in groups or as an individual) component. Awaysheh and Bonfiglio (2017:333) conclude that where participants have the opportunity to experience hypotheses in reality and live what they are learning through experiential learning, their memories will last significantly longer. EE and hands-on learning are discussed in the next paragraph.

Entrepreneurship education and hands-on learning

Dyer *et al.* (2016:6) propose an EE programme where students apply the skills learned in the classroom right away in a hands-on learning methodology. Dyer *et al.* (2016:6) highlight the faithfulness to specific values deemed to enhance entrepreneurial outcomes. This approach to EE follows action-based principles to teaching (Dyer *et al.*, 2016:6). The following paragraph discusses EE and experiential learning.

Entrepreneurship education and experiential learning

Bell (2020:2-3) discusses a teaching model where the instructor introduces the teaching session topic and highlights the session's value for the project's development. Then the students work in groups of four to five members to integrate their ideas into the group's project. The session includes structured reflection time to enable students to understand better the value of the creation process (Bell, 2020:3). Students are encouraged to question and understand their experiences (Bell, 2020:3).

The study by Fayolle *et al.* (2020:3-4) deduces that the key pedagogical approaches in the engineering education classroom should be active learning, experiential learning, co-operative learning and learning by doing. The study by Costello (2017:645) recommends that engineering programmes must include hands-on business experience combined with innovative engineering projects.

Rodríguez-López and Souto (2019:256) discussed a pedagogical model that fits under the constructivist perspective to entrepreneurial training and education where students actively participate in the generation of new understanding. In the second case reviewed by Arthur and Adom (2020:723), the classroom experience shifted to a more action-based EE programme that involved learning by doing in a group context. This case supported the arguments reinforcing the constructivism theory (Arthur & Adom, 2020:723).

The entrepreneurial training programme proposed by Lindberg *et al.* (2017:769) includes active learning assignments that support the students' personal or soft skills. This is in line with Nugraheni *et al.'s* (2019:196-197) proposal for participatory based learning that incorporates the participant's experiences into the process of learning.

Fayolle (2013:696-697) confirms that the existing research on the approach to EE indicates that experiential learning, learning by doing, and active learning pedagogy are critical. Very little is said about the methods to integrate the pedagogy in the EE programme. According to Fayolle (2013:697), there are recommendations that interactive outdoor activities can contribute to practical learning. Research by Henry and Treanor (2012:487) confirms that EE's focus should be less book-based and rather more experiential, allowing students to learn by doing to improve their competence and boost their confidence in their skills.

In the second category of the learning process, the focus is on becoming an entrepreneur (Fayolle & Gailly, 2012:583). These types of programmes are intended for people already engaged in an entrepreneurial project. The contents of these types of programmes are often based on learning by doing pedagogy (know what, how and who) (Fayolle & Gailly, 2012:583). The learning process must consider the situations and context in which entrepreneurs operate. Learning in real-life situations is often accomplished with the entrepreneur in emergency mode and constrained by the previous experience of the entrepreneur. Training programmes should be tailored and customised to consider this (Fayolle & Gailly, 2012:583).

Students must be enabled to apply their skills and knowledge when creating a new business. For students without any prior entrepreneurial experience, the lecturers should assist the students in building a solid, basic understanding of the entrepreneurial process (Zeng & Honig, 2016:259). Entrepreneurship education skills are discussed in the following paragraph.

Entrepreneurship education skills

The study by Abou-Warda (2016:706) argues that the following skills training must be included in an EE programme: (1) leadership, (2) negotiation skills, (3) new product development, (4) creative thinking, (5) technological innovation exposure, (6) creating an actual business, (7) action learning, (8) business simulation, (9) video role-plays, (10) mentoring and (11) experiential learning methods. Basic entrepreneurial skills can be categorised into the following five types: (1) technological skills, (2) technical skills, (3) entrepreneurial skills, (4) management skills, (5) personal maturity skills (Abou-Warda, 2016:706). The following paragraph discusses EE and the EBC model.

Entrepreneurship education and the EBC

The uniting principle of the EBC is the action of implementation rather than business plan production (Watson & McGowan, 2019:38). The crux of the EBC is the action taking: (1) building the product, (2) manufacturing the product, (3) selling the product (Watson & McGowan, 2019:38). This is similar to the intervention proposed by Volery *et al.* (2014:166) and Blesia *et al.* (2019:58). Students following an action research process are provided with direct experience in applying their commercial and technical skills knowledge to develop a real concept for a real company.

Elo (2016:537) identified using a cross-curricular approach, encouraging students to take a risk and consider mistakes as a learning opportunity, not a failure, is an essential characteristic of EE.

The whole-course EE programme focuses on giving particular advice to students and groups using face-to- face methods to guide the students and help students integrate the theory and practice (Wang & Chen, 2013:46).

The use of serious games as part of the EE process enhances the understanding of the teaching content. It could resolve the lack of interest by students in the classroom environment. The video game is associated with collaboration, engagement in the environment and practice (Charrouf & Janan, 2019:3842). Entrepreneurship education and the use of storytelling are discussed in the following paragraph.

Entrepreneurship education and the use of storytelling

Storytelling is a handy approach to use when teaching entrepreneurship to students with limited or no experience of the construct because the stories used can then convey the notions of risk, creativity, innovation and proactivity (Cardow & Smith, 2015:362).

The prior experience obtained from being involved in a business venture or entrepreneurial management has a profound positive effect on entrepreneurial performance (Zheng *et al.*, 2017:1395). The best practice is to divide students into different groups based on their prior experience (novice, habitual, serial and portfolio entrepreneurs) (Zheng *et al.*, 2017:1395). EE is then customised for each group based on experiential learning, a learning process where entrepreneurs transform their own experiences and observe the behaviours of other entrepreneurs. The outcomes have three dimensions (know-what, how and why). Zheng *et al.* (2017:1404) proposed the addition of 19 more specific and effective sub-items for assessing

the investment in entrepreneurial experience. The use of role models in EE is discussed in the next paragraph.

Entrepreneurship education and the use of role models

Boldureanu *et al.* (2020:7) propose that role models be included in EE. The use of role models can stimulate self-efficacy by providing indirect experiences to the students. Role models also provide feedback of encouragement to students (Boldureanu *et al.*, 2020:7).

Maritz and Foley (2018:7) propose using a hybrid pedagogy for EE that includes traditional pedagogy, inquiry-based learning, collaborative learning and experiential learning. The following paragraph discusses EE and practical tools.

Entrepreneurship education and practical tools

The following practical tools should be included in the EE programmes to help students better understand the entrepreneurial concepts (Iglesias-Sánchez *et al.*, 2019:7-8):

a. Hackathon

   This activity focuses on solving practical problems that require a great deal of energy, determination, and cross-disciplinary teams.

b. Team building

   This process helps groups of people to work better in teams by participating in activities and events designed to promote co-operation and motivation.

c. Practical case study

   This method involves the in-depth study of an actual case with all the contextual conditions. The case has a real solution, but the solution is not shared with the participants from the onset.

d. Use of role-playing

   This technique allows students to explore realistic situations by interacting through role-playing.

The following paragraph discusses the need for specific soft skills training for entrepreneurs.

4.3.2.4 Soft skills training for entrepreneurial education

Li (2010:2) concludes that without soft skills like (1) leadership, (2) creativity, (3) pro-activeness, (4) propensity to take a risk and (5) wakefulness, successful business ventures will not be possible. Individuals require the entrepreneurial conviction: the right mindset, motivation, attitude awareness to put in the effort needed to create a business (Li, 2010:2). Zheng *et al.* (2009:3) argue that teamwork, communication skills, problem-solving and achievement motivation skills should be added to the list of required soft skills. Nugraheni *et al.* (2019:195) consider the inclusion of training on soft skill management as an important supporting factor in improving the skills of aspiring entrepreneurs. Arthur and Adom (2020:717) argue that soft skills training towards adjusting students' mindsets helps shape the perceptions around the feasibility and desirability of entrepreneurship as a career choice and highlights the importance of soft skills like self-confidence, internal locus of control, resilience and self-efficacy. Building a relational network is also an important soft skill for entrepreneurs (Zheng *et al.*, 2017:1398). Botha *et al.* (2007:164) propose that life skills training like planning and budgeting skills should be included, especially when training less educated aspiring entrepreneurs. Table 4.6 summarises the proposed important soft skills that should be included in EE initiatives.

Table 4.6: Summary of the proposed soft skills

Important soft skills		
• Leadership • Creativity • Pro-activeness • Propensity to take risk • Wakefulness	• Teamwork • Communication skills • Problem-solving skills • Achievement motivating skills • Self-confidence	• Internal locus of control • Resilience • Self-efficacy • Planning skills • Budgeting skills

Source: Adapted from: Arthur and Adom (2020:717); Botha *et al.* (2007:164); Li (2010:2); Nugraheni *et al.* (2019:195); Zheng *et al.* (2017:1398); Zheng *et al.* (2009:3)

The soft skills included in EE programmes depend on the specific needs of the intended target market for the education programme. The following paragraph considers the use of keynote speakers, role models and storytelling.

4.3.2.5 Use of key speakers, role models and storytelling for entrepreneurial education

The use of keynote speakers, business visits, field trips is considered part of fundamental entrepreneurial activities (Li, 2010:2; Wahyuningsih *et al.*, 2018:452). Zheng *et al.* (2009:4) propose using case studies, where the business owner presents the case study live in class. This allows students to engage with the business owner to fully understand the case study and the business owner's real challenges (Swarnalatha & Vasantha, 2014:10). Henry and Treanor (2012:487,493) and Zeng and Honig (2016:246) confirm the importance of using case studies and guest lectures by visiting entrepreneurs as part of the EE process.

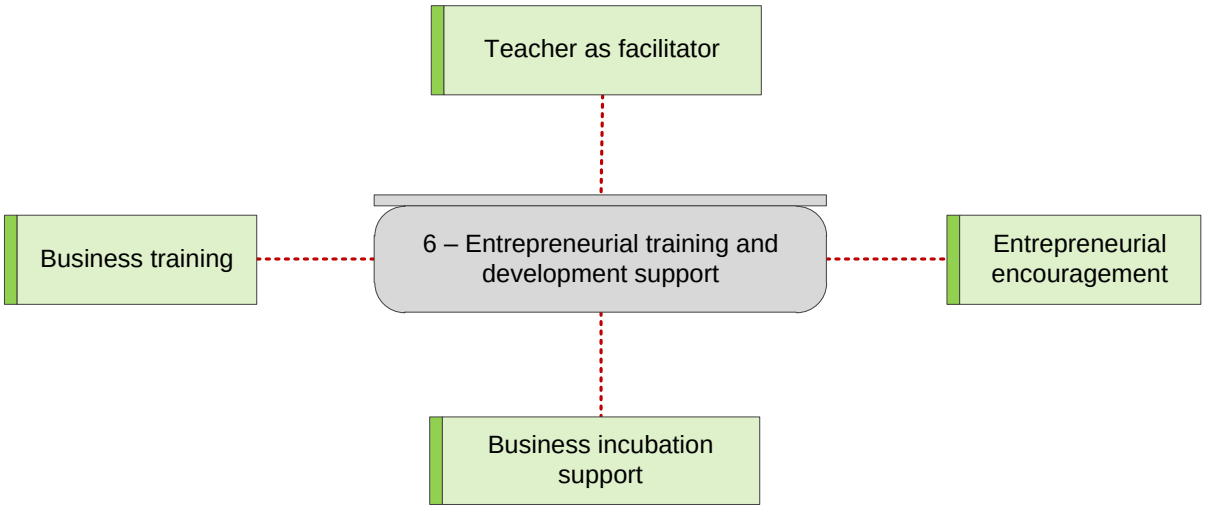
Storytelling is widely used in EE, where successful role model stories have a greater impact than stories about failure. It is interesting that peer stories are more inclined to arouse the student's entrepreneurial intentions than stories about well-known entrepreneurs like Steve Jobs from Apple (Feng *et al.*, 2019:2). Aspiring entrepreneurs are attracted to role models from whom they can learn specific competencies and skills that are perceived to be similar in terms of goals, characteristics and behaviours (Boldureanu *et al.*, 2020:1-2,4; Cardow & Smith, 2015:362; Entrialgo & Iglesias, 2017:1-3,9-11). Exposure of aspiring entrepreneurs exposed to entrepreneurial role models can (Boldureanu *et al.*, 2020:5-6,22; Entrialgo & Iglesias, 2017:1-3,9-11):

- Motivate a person to consider a career in entrepreneurship and/or actively search for entrepreneurial opportunities.
- Focus the individual's attention on opportunities inspired by the role model.
- Have some influence on the assessing of business options.

The following paragraph reviews entrepreneurial training and development support.

4.3.3 Entrepreneurial training and development support

Figure 4.5: Overview of entrepreneurial training and development support



Source: Own compilation in Atlas.ti 9 ™

Figure 4.5 shows an overview of the components of entrepreneurial training and support.

4.3.4 Entrepreneurial training and development facilitation

In this section, the focus is on the entrepreneurship teacher as a facilitator. Table 4.7 is a summary of the key points that are discussed in more detail.

Table 4.7: Key points for facilitators in the entrepreneurship education and training environment

Facilitators should focus on the following:
• It is not about what is taught (didactic knowledge), but rather how knowledge is applied (behavioural).
• Context and the specific audience must be taken into consideration.
• Apply "out of the box" thinking.
• A business plan competition can be a handy tool.
• The entrepreneurship intention model proposes a focus on students' intention to start a business.
• Context and the specific audience must be taken into consideration.
• Dyer propose a focus on (1) value training, (2) financial literacy and (3) "rule of thumb" training when assisting necessity entrepreneurs.

Facilitators should focus on the following:
• Include technical education directed towards enriching entrepreneurial culture when teaching entrepreneurs in developing countries.
• Use a hybrid EE model when training established entrepreneurs. Include three components: (1) experiential learning, (2) knowledge-based training and (3) creation of a peer network.
• Assist aspiring entrepreneurs in understanding the entrepreneurial role.
• Students must understand failure is part of the experiential learning process and should be viewed in a positive light.
• The main purpose of EE is to instil knowledge and entrepreneurial skills so that students can become self-employed.
• Create a learning environment that motivates and empowers students to learn entrepreneurial skills.
• Experiential-based EE can increase the entrepreneurial spirit of students.

Source: Adapted from Bell and Bell (2016:3,7); Buli and Yesuf (2015:5); Dyer *et al.* (2016:1); Osorio and Cordero (2014:2); Quach *et al.* (2020:117-118); Sai *et al.* (2019:95); Sherkat and Chenari (2020:1); Zeng and Honig (2016:9)

The key points listed in Table 4.7 are included in the discussion of facilitation for specific groups in the following paragraphs. The next paragraph discusses the facilitation of youth entrepreneurs.

Facilitating youth entrepreneurs

The study by Sai *et al.* (2019:95) concludes that entrepreneurship skills need to be included in youth development programmes. The youth respond positively to non-traditional training methods like business simulation, field visits and basic entrepreneurship skills training. Quach *et al.* (2020:117-118) argue that it is not so much about the didactic knowledge (what is taught) but rather how the knowledge is applied (behavioural) that impact the goal attainment of the groups, individuals and societies. When developing EE, the context and the specific audience must be considered when developing particular objectives to ensure relevancy (Quach *et al.*, 2020:118). In order to accomplish these goals, developers should apply “out of the box” thinking and apply new theoretical perspectives in EE and include a sound evaluation process in the programme (Quach *et al.*, 2020:119). The following paragraph discusses the facilitating of the entrepreneurial process.

Facilitating the entrepreneurial process

Bell and Bell (2016:3) debate that students should be exposed to and be engaged in all the complex stages of the entrepreneurial process to learn about entrepreneurship. Bell and Bell (2016:7) propose using a business plan competition to expose students to entrepreneurial activities. Students get practical skills training and exposure in developing business ideas and turning ideas into an effective business plan.

The entrepreneurial intention model is a handy tool to understand the entrepreneurial process. The entrepreneurial intention model proposes that EE activities develop a student's intention to start a business by affecting the student's skills, attitude and knowledge (Sherkat & Chenari, 2020:1). Unfortunately, research shows that entrepreneurial intention only explains approximately 30% of the variance in behaviour (Sherkat & Chenari, 2020:1). The intention model cannot explain why some aspiring entrepreneurs never start a business and prematurely quit the entrepreneurial process (Sherkat & Chenari, 2020:1). Necessity entrepreneurs and facilitation are discussed in the following section.

Necessity entrepreneurs and facilitation

Dyer *et al.* (2016:1) argue that "necessity entrepreneurs" require instruction in business skills to improve entrepreneurial outcomes. Entrepreneurial training for the poor follows three principal approaches: (1) values training, (2) financial literacy training and (3) "rule of thumb" training (Dyer *et al.*, 2016:2). It is tough to assess the efficacy of EE training for the poorer communities due to insufficient data collection, a wide variety of findings and methodological problems (Dyer *et al.*, 2016:2). Facilitation in developing countries is outlined next.

Facilitation in developing countries

The developing countries have various challenges that include rural-urban balance, unemployment and labour utilisation. Buli and Yesuf (2015:5) argue that technical education can assist in improving these conditions when directed towards enriching the entrepreneurial culture through EE. Most higher education institutions continue offering EE programmes using the traditional knowledge retention model where participants are required to retain knowledge to be awarded a qualification (Osorio & Cordero, 2014:2). This traditional approach can help expand the number of start-ups by supplying them with the tools to start. Osorio and Cordero (2014:2) argue that the traditional approach is not well-suited for entrepreneurs who are already in business. Osorio and Cordero (2014:1) propose a hybrid EE model to fill the gap between EE and attend to entrepreneurs who have already started with business operations

and require training and guidance to grow their businesses, especially for urban entrepreneurs. This hybrid programme aims to assist these entrepreneurs in developing a resource knowledge network (Osorio & Cordero, 2014:2). The hybrid entrepreneurship training model incorporates three complementary components: (1) experiential learning, (2) knowledge base training and (3) peer networking (Osorio & Cordero, 2014:33).

Zeng and Honig (2016:9) argue that there is no "one-size-fits-all" social role for entrepreneurs. Entrepreneurs must exploit market opportunities and be willing to take risks to build something of value (Zeng & Honig, 2016:9). The challenge is that students without prior entrepreneurial experience are doubtful to understand the entrepreneurial role (Zeng & Honig, 2016:9). If this lack of understanding is not addressed, it will probably harm entrepreneurship learning, so the lecturer should familiarise students with the entrepreneurial role at the onset of the training (Zeng & Honig, 2016:9). Experiential learning and facilitation are discussed in the following section.

Experiential learning and facilitation

Zeng and Honig (2016:9) propose an intervention to ensure students understand that being an entrepreneur involves failure, and they must view these failures as positive learning experiences. In this intervention, student groups are given $20 seed funding. The groups have one week to use the seed funding to start a small business and make a profit (Zeng & Honig, 2016:9). This intervention allowed the students to have fun while familiarising themselves with the role of an entrepreneur. Criticism of this type of intervention is that it does not have a proper theoretical framework. Although the students enjoy participating in the intervention, it will not necessarily improve the students' entrepreneurial abilities or skills (Zeng & Honig, 2016:9). EE programmes aim to furnish students with knowledge and skills to become self-employed. However, the specific content of EE is continuously under debate (Zeng & Honig, 2016:10). Some major themes have been recognised as significant subjects in EE. These include entrepreneurial cognition and strategy, financing business ventures, strategic management, entrepreneurship ethics and human resource management (Zeng & Honig, 2016:10).

Additionally, lecturers should also teach entrepreneurship theory. The definition of entrepreneurship theory is a set of empirical generalisations about the economy, the world and how entrepreneurs should adjust their behaviour to ensure the prediction of true outcomes (Zeng & Honig, 2016:10). Entrepreneurship theory is deemed a critical part of entrepreneurship training because it provides the students with rules and frameworks to better anticipate the

future and help them make better entrepreneurial decisions (Zeng & Honig, 2016:10). The facilitation of female entrepreneurs is discussed in the following paragraph.

Facilitation of female entrepreneurs

An example of focussed facilitation is the Avinashilingam University for women in Coimbatore in India which offers entrepreneurial training and education specially developed for women. The course modules include business plan and entrepreneurial skills development (Swarnalatha & Vasantha, 2014:9). Putta (2014:460) posit that entrepreneurs must have specific skills to create and maintain a business, and these skills can be acquired through good quality EE programmes. Enhancing and improving the management skills of entrepreneurs is considered to be a never-ending, ongoing process (Putta, 2014:406). The WEP provides business management, technical training and entrepreneurial training to women entrepreneurs. Technical training includes interpersonal skills, network building skills, use of technology and oral communication skills (Botha *et al.*, 2007:163-165). The WEP also identified financial and marketing skills training as an important component of EE (Botha *et al.*, 2007:165). The facilitation of rural entrepreneurs is discussed in the following paragraph.

Rural entrepreneur's facilitation

Koyana and Mason (2017:739) conclude that EE for rural entrepreneurs should specifically focus on improving critical skills like finance, marketing, logistics and networking. Koyana and Mason (2017:739) argue that more EE is required to improve women's role in entrepreneurship and leadership because women are still disproportionately tested by the lack of education, the patriarchal system and family responsibilities. Wang and Chen (2013:48) conclude that student entrepreneurial ability improves with practice and not by training alone. The creation of the best environment for facilitation is discussed in the following paragraph.

Creating the best environment for facilitation

The LAB studio model creates a learning environment for aspiring entrepreneurs, where entrepreneurship skills are enhanced and knowledge generated with co-operation between coaches, students and industry partners (Heikkinen & Stevenson, 2016:7,10)

Santos *et al.* (2018:817-818) argue that: (1) governments' economic policies should be adjusted to promote EE from a young age, training management skills lead to enhanced entrepreneurial skills and (3) teaching entrepreneurial skills should start in basic education.

Students' entrepreneurial spirit can be increased by including an experiential-based EE model in the curriculum (Blesia *et al.*, 2019:55). Universities can focus on two parts to strengthen the construction of innovative and entrepreneurial courses: (1) the innovation course should introduce international as well as national innovative methods, and (2) the EE programmes curriculum must consider the needs of the students, with a focus on creative entrepreneurship, social entrepreneurship or internet-based entrepreneurship (Zhou & Wu, 2019:245). The following paragraph examines business incubation support and entrepreneurial encouragement.

4.3.4.1 Business incubation support and entrepreneurial encouragement for entrepreneurial training and development

Research by Bell and Bell (2016:8-9) investigated the use of a student business competition as an experiential learning approach combined with access to professional mentors. The competition consisted of three phases. Phase 1 is the development and submission of a business plan. The best five business plans progressed to Phase 2, where students had to pitch and sell their business ideas to a panel of experts. Only one team were selected to move to Phase 3, the launch of a new business (Bell & Bell, 2016:8-9). The third phase of the competition is considered incubation support (Bell & Bell, 2016:8-9). As described in detail in 2.6.5.3, the LAB studio model can be regarded as a pre-incubator (Heikkinen & Stevenson, 2016:159).

The research conducted by Zhou and Wu (2019:246) found that many universities and colleges in Ningbo, China created maker spaces and entrepreneurship innovation centres to assist students and incubate the students' entrepreneurial and innovation projects. The study by O'Neill and Viljoen (2011:41) suggested that training initiatives for female entrepreneurs must include services like mentoring and aftercare. By adding EE to the curriculum of primary schools, creativity and innovation skills were installed from an early age to foster the students' entrepreneurial spirit (Darmawati *et al.*, 2020:123). The following paragraph discusses the initial framework of existing entrepreneurial training and development models.

4.4 INITIAL FRAMEWORK OF EXISTING ENTREPRENEURIAL TRAINING AND DEVELOPMENT MODELS

4.4.1 Existing foundational entrepreneurial training and development models

The existing entrepreneurial models are summarised in Table 4.8. The models are discussed in detail in Paragraphs 4.4.1.1 to 4.4.1.5.

Table 4.8: Existing entrepreneurial training and development models

Entrepreneurial training models	Description
Camp Model	Students are taken from their normal learning environment to work in teams with students from other schools. The Camp Model takes place over a fixed period of two to five days.
LAB studio model	This model takes a laboratory environment approach where students can build concepts and experiment.
Use of business competition	A competition where students must design a business plan.
Use of business simulation	Use of business simulation in a board game or electronic format to teach business principles.
Use of serious games	Use of games as part of the entrepreneurial training and development process.
Creativity, creative thinking and innovation	It is important to include creativity and innovation enriching training in entrepreneurial training models.
Experiential training model	This model allows students to learn while actively involved in the learning process.

Source: Adapted from Heikkinen and Stevenson (2016:6-8); Li (2010:1-2)

4.4.1.1 Camp Model of entrepreneurial training and development

An overview of the Camp Model was already given in Paragraph 2.9.2.3. The core principles of the Camp Model are that the teacher acts as a facilitator, and the model has a future centred focus. The students are taken from their normal teaching environment to interact with students from other schools and disciplines (Li, 2010:1-2). The students work in teams and the teams are put together across discipline boundaries. The Camp Model takes place over a fixed period, usually two to five days (Li, 2010:1-2). The following paragraph describes the LAB studio model.

4.4.1.2 LAB studio model of entrepreneurial training and development

The LAB studio model was discussed in detail in Paragraph 2.9.2.3. The core of the LAB studio model is that it takes a laboratory environment approach where concepts can be built and experimentation takes place (Heikkinen & Stevenson, 2016:6-8). The LAB studio is designed to focus on a specific industry as required (Heikkinen & Stevenson, 2016:6-8). The LAB studio model uses a multidisciplinary education model that delivers self-directed teams, new start-

ups, and skilled professionals (Heikkinen & Stevenson, 2016:6-8). The following paragraph will explain the use of business completion, serious games and business simulation.

4.4.1.3 Use of business competition, business simulation and serious games for entrepreneurial training and development

Paragraph 2.9.2.2 elaborates on using a business competition with different approaches, tools, and more than one stage (Bell & Bell, 2016:7-9; Sherkat & Chenari, 2020:17). Bell and Bell (2016:7-9) propose a three-phased business competition where students enter the competition in groups and have to prepare a business plan in Phase 1. The qualifying student groups move to Phase 2, where they have to pitch and sell their business idea to a panel of experts. The winning group move to Phase 3, where they launch their business idea (Bell & Bell, 2016:7-9). Sherkat and Chenari's (2020:17) study confirms the importance of using business competitions as part of the EE process. Watson and McGowan (2019:33-35) argue that business competitions can involve individual participants or participants in groups. Watson and McGowan (2019:33-35) describe the business competition as a structured process where participants submit a business plan and a panel of judges evaluate the business plan. Watson and McGowan (2019:34) highlight the following critique of the use of the business plan competition: the use of the business plan as part of the business competition is overrated as the submission of the business plan does not imply that the individual or group have the necessary skills to start and run a business. Wang and Chen (2013:47-49) argue that the business competition can take one of two approaches: the competition can either focus on submitting a business plan or the competition can focus on business skills. Regardless of the approach followed, the purpose of the business competition is to cultivate the entrepreneurial spirit, foster entrepreneurial quality and improve the entrepreneurial ability of the students (Wang & Chen, 2013:48).

Sherkat and Chenari (2020:17) propose that the use of games and business simulations can encourage entrepreneurship and innovation. Henry and Treanor (2012:487) conclude that facilitators increasingly use gaming and business simulations to engage students as part of EE. Fayolle and Gailly (2012:579) argue that there is no universal pedagogical recipe to teach entrepreneurship. The methods selected will depend on the institutional context's constraints and objectives (Fayolle & Gailly, 2012:579). Learning by doing methods like business simulations and games are good examples of active methods that are well-suited for some pedagogical situations (Fayolle & Gailly, 2012:579-580).

Zeng and Honig (2016:248) argue that students should be included in activities that expose them to the social control process. This will assist students in developing their function in the social setting and develop their teamwork skills. When training students without prior entrepreneurial experience, it is vital to include them in social control activities (Zeng & Honig, 2016:248). A computer-based simulation programme in class is an ideal opportunity to expose students to social control activities (Zeng & Honig, 2016:248). Students benefit from business simulation because the simulation reflects the complexities and realities of running a business (Zeng & Honig, 2016:248). Awaysheh and Bonfiglio (2017:337) argue that business simulation should be included in the experiential learning programmes of business schools to move students beyond the classroom to learn in the real world. Costello (2017:646) argues that simulation has been successfully used in training in the medical field and can be successfully transferred to the engineering and entrepreneurship fields. Simulation provides a much richer learning experience than lectures (Costello, 2017:646). Feng *et al.* (2019:3) confirm the importance of using experiential learning, business simulation and technology applications in EE. Feng *et al.* (2019:3) argue that students' value from these methodologies relies on their participation and involvement through the teaching process (Feng *et al.*, 2019:3). Wang (2016:282) proposes using a virtual network platform for all EE needs. This virtual platform gives students access to EE content and business simulation software as part of the experiential learning process (Wang, 2016:282).

Serious games can be used as a teaching and learning tool in an experiential learning environment (Charrouf & Janan, 2019:3842). The definition of a serious game is: “a mental contest, played with a computer following specific rules that uses entertainment to further training, education, public policy, health and strategic communication objectives” (Charrouf & Janan, 2019:3842). This generation of students feel they are not challenged in the classroom and get bored quickly, but they are eager to engage with technology, so they are open to engaging with serious games (Charrouf & Janan, 2019:3842). The use of serious games enhances the overall grasp of the teaching content for the student as it allows students to directly apply acquired knowledge (Charrouf & Janan, 2019:3842). Paragraph 4.4.1.4 discusses the importance of including creativity and innovation in entrepreneurial training.

4.4.1.4 Creativity, creative thinking and innovative entrepreneurship for entrepreneurial training and development

Lourenço and Jayawarna (2011:225) identify the importance of including creativity-enhancing training in EE as creative thinking is considered a core skill for entrepreneurs. Nugraheni *et al.* (2019:195-196) propose that students' innovative and creative ability is the basis for success,

especially in a creative environment like art education tourism. Washington State University emphasises training students' creative thinking capacity, and the university promotes entrepreneurship team spirit (Wang & Chen, 2013:45).

Sherkat and Chenari (2020:17) conclude that EE programmes should include innovation training. Students must also engage in creating real businesses to enable them to gain practical experience and effectively engage in topics like idea creation and innovation (Sherkat & Chenari, 2020:17). The entrepreneurial orientation of any organisation includes three dimensions: (1) pro-activeness, (2) risk-taking and (3) innovation (Lindberg *et al.*, 2017:771). Many governments across the world introduced and funded EE programmes as part of a policy instrument to nurture: (1) innovation, (2) human resource development and (3) the creation of new companies (Galvão *et al.*, 2020:597). The next paragraph appraises the experiential training model.

4.4.1.5 Experiential training model, experiential training and learning for entrepreneurial training and development

Farber *et al.* (2015:347) identify a significant shift towards experiential learning where students begin with starting an actual business from their first year of study. Farber *et al.* (2015:347) identified three principal arguments for experiential: (1) Students, specifically millennials, find experiential learning methods interesting. It is important to engage students' interest, (2) when teaching practical topics, practical learning is required to prepare students for their careers, (3) by resorting to learning theory, active learning approaches such as experiential learning can be rationalised.

An experiential training model must include an experiential phase and a reflection phase. Reflection is an important component of the experiential learning process (Bell, 2020:3; Li, 2011:3; Zeng & Honig, 2016:254). Li (2011:3) argues that entrepreneurial teaching methods like learning by doing should complement traditional teaching methods as the traditional methods ignore the entrepreneurial process, which is considered to be the essence of the phenomenon (Arthur & Adom, 2020:714; Elo, 2016:537; Koyana & Mason, 2017:739-740; Lindberg *et al.*, 2017:775; Putta, 2014:463-464; Rodríguez-López & Souto, 2019:256; Zheng *et al.*, 2009:2).

Sherkat and Chenari (2020:4) deduce that students are motivated to apply entrepreneurial skills when looking for solutions to real-life problems when exposed to real-life practices as part of their EE. Students who are exposed to establishing real businesses from their first year of study and get exposed to business competitions and entrepreneurial events are more

enabled to effectively engage in topics such as innovation, recognising opportunities, leadership and decision-making (Heikkinen & Stevenson, 2016:2-4; Sherkat & Chenari, 2020:17; Watson & McGowan, 2019:36-37). Bell (2020:2-3) explains that experiential learning in EE is considered effectual and that authentic experiences can lead to deeper learning. Putta (2014:463-464) deduces that EE and training aim to teach entrepreneurs to (1) gain entrepreneurial knowledge, (2) encourage and recognise entrepreneurial skills, (3) gain skills in the utilisation of entrepreneurial techniques, (4) gain the ability to analyse business situations and be able to develop action plans, (5) the ability to empathise, (6) a mature attitude to handle change and uncertainty and (7) the ability to encourage and create new business. Putta (2014:463-464) argues that EE in tertiary institutions will move away from focussing on the traditional way of training and would rather focus on a model that prepares potential entrepreneurs to be innovative, creative and risk-taking. Potential entrepreneurs will be learning to interact socially, recognise and act on business opportunities, and originate, coordinate, and operate business ventures by learning how to act and learn through doing/ participating in entrepreneurial activities (Putta, 2014:463-464).

The three-stage business plan business competition proposed by Bell and Bell (2016:8-11) is an excellent experiential training/learning example. Students learn from their experience in all three phases of the competition. Students reported that they were working on a business plan for a real business. The students also reported a shift in their locus of control from external to internal and improved self-confidence (Bell & Bell, 2016:12). The competition proposed by Bell and Bell (2016:8-11) is discussed in detail in 2.6.5.2. The study by Osorio and Cordero (2014:174,176,204) validates the competence model approach to experiential learning for entrepreneurs already in business. Entrepreneurs already in business prefer a problem-centred model of learning because new knowledge can immediately be applied (Osorio & Cordero, 2014:204). Zeng and Honig (2016:250) argue that students learn by doing and that the combination of grasping and transforming experience, in reality, allow them to create knowledge. Lecturers should provide students with opportunities to participate in entrepreneurship practice. Students engage in entrepreneurial learning by participating in their start-up projects (Zeng & Honig, 2016:250). The Camp Model and the LAB studio model are good examples of experiential learning where students work in cross-disciplinary groups, focussing on finding solutions to real-life problems (Heikkinen & Stevenson, 2016:2-4; Li, 2010:2). Fayolle *et al.* (2020:3-4) argue that the engineering literature confirms that experiential learning should be the key pedagogical approach in the classroom as the desirable characteristics of engineering education, such as creative and critical thinking (adaptable problem-solving), are well-correlated with action-orientated learning pedagogies.

The evaluation of EE programmes has been well researched. Scholars provided valuable insights into the appropriate pedagogies for EE (Feng *et al.*, 2019:3). The benefits students derive from EE programmes depend on their involvement and participation through the teaching process (Feng *et al.*, 2019:3). The following paragraph examines the outcomes, assessment and content of existing entrepreneurial training and development models.

4.4.2 Analysing existing entrepreneurial training and development model outcomes, assessment and content

The importance of the analyses and evaluation of the existing entrepreneurial training model outcomes and the importance of proper evaluation of programme content is discussed in Paragraph 4.4.2.1

4.4.2.1 Evaluation of entrepreneurship education content

Lack of proper evaluation

Many research studies and programmes focus on the development of entrepreneurial intentions, where the focus on entrepreneurial intentions resulted in rather conflicting sentiments on the valuableness of EE (Quach *et al.*, 2020:3). The lack of proper evaluation and the lack of control groups in EE limit the accurate assessment of the value of EE (Quach *et al.*, 2020:3). Educators and researchers are urged to partner to design methods and programme content that focus on applicable concepts like soft skills and other relevant competencies (Quach *et al.*, 2020:5). Currently, the evaluation of the findings of EE is an important but neglected phase in the EE process. Quach *et al.* (2020:5) argue that the measurement of the EE programme objectives will deliver essential diagnostic information about the programme's effectiveness (Quach *et al.*, 2020:10).

Quach *et al.* (2020:10) purposefully designed an individual EE programme for potential franchisees. The findings show the positive impact of this programme on the target audience. The results were achieved by employing a pragmatic, targeted and novel approach that focuses on entrepreneurial decision-making within a specific business concept as the central theme (Quach *et al.*, 2020:10). This EE programme achieved its behavioural, cognitive and affective objectives. The cognitive objectives involved preferred behavioural outcomes that included improved relationships and performance quality. The effective outcome included a surge in the level of entrepreneurship satisfaction (Quach *et al.*, 2020:10).

The following paragraph discusses the effect of entrepreneurial intent on entrepreneurial behaviour.

The effect of entrepreneurial intent on entrepreneurial behaviour

Liñán (2004:163) is one of the researchers that developed a view of EE programmes based on the entrepreneurial intention model. Based on this approach, EE is defined as: "the whole set of education and training activities – inside and outside of the educational system – that try to develop the intention of the participants to perform entrepreneurial behaviours" (Liñán, 2004:163). Because of the conflicting sentiments regarding the value of entrepreneurial intentions in EE programmes, Adam and Fayolle (2015:37-47) explored the missing link between entrepreneurship intent and entrepreneurship behaviour. The research focussed on two factors of the socio-psychological research literature to elucidate why not all potential entrepreneurs will create their businesses. The factors are (1) commitment and (2) the intention to implement (Adam & Fayolle, 2015:37-47). The study by Sherkat and Chenari (2020:3-4) used the model by Adam and Fayolle (2015:37-47) and added EE and its components to the model to explore the impact of EE on implementation intention, goal intention and commitment of tertiary students. This study evaluates pedagogical and entrepreneurial curriculum methods as the two strategic variables (Sherkat & Chenari, 2020:3-4). Students were divided into two groups. Group 1's students attended standard curricular courses on managerial economics, business economics and innovation. Group 2's students attended courses on business planning and entrepreneurship. These students also participated in collateral activities such as pitch sessions, incubator and mentor meetings, lean start-up workshops and meetings with start-up entrepreneurs and established entrepreneurs (Sherkat & Chenari, 2020:3-4). The main findings of Sherkat and Chenari (2020:3-4) research include the result that EE had a positive impact on entrepreneurial intent and those particular qualities of the EE programme are the key factors that develop human capital and entrepreneurial intent. Zheng *et al.* (2009:2) argue that the learning must be grounded in real-life work situations for EE programmes to be effective. The process must accentuate opportunity exploration and exploitation. Gibb (1993:13-24) proposes a flexible approach in time and location while focussing on a more active experience-based teaching and learning method, for example, learning by conquering failure, developing more independence and exploring the broader concepts linked to a problem. Galloway *et al.* (2005:4) argue that including guest speakers, role models and case studies can stimulate urgency in entrepreneurial intent. Using the live case study approach assists students to gain practical insight into the management and operational aspects of

running a small business with an accent on the importance of marketing in the survival and growth of a small business (Zheng *et al.*, 2009:2).

The practical involvement of the students results in the more significant acquisition of practical knowledge on undertaking practical market research, how to market a business and how to complete customer surveys (Zheng *et al.*, 2009:2). Nugraheni *et al.* (2019:5) argue that the aim of incorporating entrepreneurial skills into the EE programme is to (1) develop the entrepreneurial and business competencies of the participants, (2) teach the participants the process of establishing a sustainable business and (3) expand the abilities of the participants to create new job opportunities for themselves as well as for people from the community. The next paragraph discusses the impact of personal and environmental factors on EE.

Impact of personal and environmental factors

The impact of environmental and personal factors (entrepreneurial activities and situations, social status, different parental role models, prior entrepreneurial experience and exposure and preference for self-employment) have been well-documented (Fayolle & Gailly, 2012:578). Entrepreneurship education programmes should focus on two main aspects: (1) the know-why aspect: what motivates people to do what entrepreneurs do (determinants of human behaviour and action), the values, motivation, and attitudes of entrepreneurs and (2) the know-when aspect: is this the right time to move ahead? Does this situation suit the entrepreneur's profile? Is this a good project fit for the entrepreneur? Case studies and interviews with specialists and professionals are handy tools to clarify these aspects (Fayolle & Gailly, 2012:578-579). Fayolle and Gailly (2012:579) argue that there are no common pedagogical recipes for EE and training. The modalities and techniques selected will depend on the contents, objectives and constraints enforced by the institutional context (Fayolle & Gailly, 2012:579). Approaches like “learning by doing” are an excellent example of an active training method suited for some pedagogical situations. At the same time, it may be completely inappropriate in other cases (Fayolle & Gailly, 2012:579). The inclusion of curriculum and non-curriculum components in EE programmes are discussed in the following paragraph.

Inclusion of curriculum and non-curriculum components

Abou-Warda (2016:706) identified the following five types of basic skills to include in EE programmes: (1) technical skills, (2) technological skills, (3) managerial skills, (4) entrepreneurial skills and (5) personal maturity skills. Wang and Chen (2013:48) argue that EE is a systematic process that includes non-curriculum and curriculum components. The non-curriculum components include personal guidance, group guidance, entrepreneurial planning

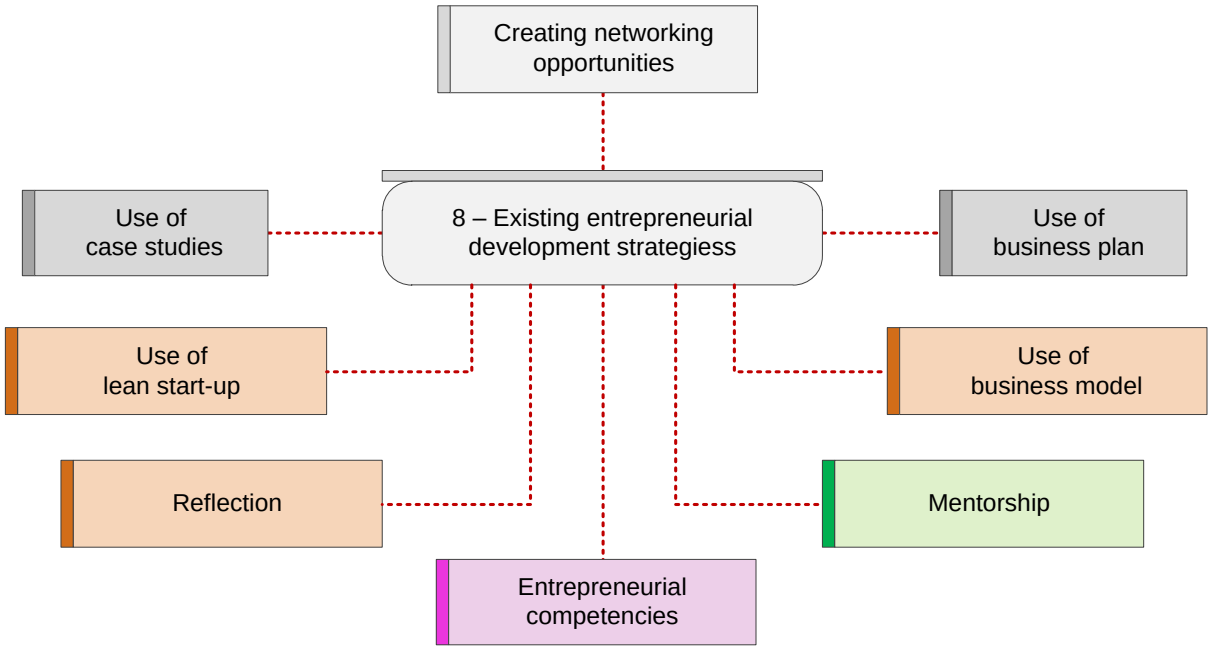
and entrepreneurial lecture. The curriculum component includes personal teaching methods, a graded advance system and a small class teaching system (Wang & Chen, 2013:48). The next paragraph discusses the evaluation of EE outcomes.

4.4.2.2 Evaluation of entrepreneurship education outcomes

The consensus is that EE positively contributes to entrepreneurship. However, the research findings are somewhat inconsistent as a minority of studies show a negative contribution of EE to entrepreneurship (Quach *et al.*, 2020:118). The evidence on positive links between EE and improved entrepreneurship performance is inconclusive (Quach *et al.*, 2020:118). The proper evaluation in EE in terms of the course content and the effectiveness of the entrepreneurial outcomes of the programmes is still lacking (Quach *et al.*, 2020:118). This is partly due to these evaluations' lack of control groups (Quach *et al.*, 2020:118). Wang and Chen (2013:49) conclude that EE is a complicated process that must be practised actively, and the process requires further study. A standard and normal operational mechanism must be constructed to ensure sustainable development and ensure outcomes can be measured effectively. Entrepreneurial training and development strategies are appraised in the following paragraph.

4.4.3 Existing entrepreneurial training and development strategies

Figure 4.6: Overview of existing entrepreneurial training and development strategies



Source: Own compilation in Atlas.ti 9 ™

Figure 4.6 shows an overview of the existing entrepreneurial development strategies

4.4.3.1 Creating networking opportunities for entrepreneurial training and development

Botha *et al.* (2007:165) confirmed the importance of including network building and utilising network opportunities in the training of entrepreneurs, especially female entrepreneurs. The next Paragraph will review the entrepreneurial competencies for entrepreneurial training.

4.4.3.2 Entrepreneurial competencies for entrepreneurial training and development

Entrepreneurial competencies enable entrepreneurs to deal with change and contingencies (Quach *et al.*, 2020:119). Quach *et al.* (2020:120) designed an EE programme for a specific group (potential franchisees). The findings of the programme indicate how the behavioural focus in education assisted the potential franchisees with the process of opportunity exploitation. The programme used an outside-in viewpoint. This is achieved by using a targeted, pragmatic novel approach that focuses on a central theme of entrepreneurial decision-making inside a particular business framework (Quach *et al.*, 2020:120).

Bell and Bell (2016:12) designed an EE programme in a business plan competition format. The competition was conducted in three phases. In Phase 3, the winners launched and operated their businesses. The interviews conducted with the winning group after completion of the competition revealed the following: (1) The skills that the team brought up in the interview were more enterprising than entrepreneurial, (2) the students had to hone their time management and planning skills as well as their problem-solving skills (Bell & Bell, 2016:12). The lack of information regarding funding opportunities and requirements was an unexpected and costly challenge. Finally, students indicated that they had to develop their negotiation and communication skills (Bell & Bell, 2016:12).

Researchers have identified some important entrepreneurial competencies that must form part of entrepreneurial training (Table 4.9):

Table 4.9: Important entrepreneurial competencies that must form part of entrepreneurial training

Category	Skills
Business creation and management skills	• Opportunity discovery • Business plan development • Co-creation • Exposure to technological innovation
	• Decision-making methods • Solution analyses • Value creation • Principles of Accounting • Principles of planning • Principles of Marketing • Principles of Public relations • Principles of Finance • Principles of Law • Principles of Human resource management
Soft Skills	• Creativity • Critical thinking • Innovation • Leadership • Negotiation • Networking • Pro-activeness • Recognising opportunities • Risk-taking • Setting and achieving goals • Self-confidence • Social awareness • Wakefulness • Problem-solving
Entrepreneurial conviction	• Motivation • Awareness • Right mindset • Right attitude

Source: Adapted from: Abou- Warda (2016:699-706); Awaysheh & Bonfiglio (2017:334); Bell, 2020:3; Darmawati *et al.* (2020:122); Fayolle and Gailly (2012:579); Henry and Treanor (2012:485); Koyana and Mason (2017:739); Li (2010:1); Nugraheni *et al.* (2019:195); Núñez Ladeveze and Núñez Canal (2016:2,13); Sherkat and Chenari (2020:17); Watson and McGowan (2019:33,35-36); Zheng *et al.* (2009:1)

Zheng *et al.* (2009:2) propose that for EE programmes to be effective, the learning must be based on real work situations and based on the entrepreneurial process view. The entrepreneurial process view emphasises opportunity exploitation end exploration. The following paragraph will examine the importance of mentorship in entrepreneurial training and development.

4.4.3.3 Mentorship for entrepreneurial training and development

Different forms of mentoring

Bell and Bell (2016:6) argue that mentors contribute to the learning experience of the mentees by sharing their insight based on their own experiences. Mentoring comes in different forms. The forms include: (1) mentoring in the same field (pairing successful entrepreneurs with aspiring entrepreneurs) (2) peer mentoring, (3) mentoring by experts from specialist areas like banking, (4) incorporating mentoring in the teaching process by making learners mentors (Bell & Bell, 2016:7-14; Zheng *et al*., 2009:3). Aspiring entrepreneurs do not necessarily need specialist mentorship. Consultant mentors can expose aspiring entrepreneurs to entrepreneurial processes and learning support. Specialised mentors were incorporated into the EE programme in a business plan competition format (Bell & Bell, 2016:7-14; Zheng *et al.*, 2009:3). Students viewed the participation of the mentors as an opportunity to demystify the entrepreneurial process, and students felt that they were given a real experience (Bell & Bell, 2016:7-14). The study by Watson and McGowan (2019:34-37) concludes that mentoring should be included in the elements that form part of a business plan competition-based EE programme. The significance of using nascent entrepreneurs as mentors is discussed in the following paragraph.

Significance of using nascent entrepreneurs as mentors

The importance of involving existing or nascent entrepreneurs as mentors in the EE process has been emphasised by numerous scholars (Li, 2011:2-4). The main task of external expert mentors is to give the participants feedback from a practical point of view (Fayolle & Gailly, 2012:579; Lindberg *et al.*, 2017:772).

The fashion entrepreneurship programme designed by the national university of Malaysia used the mentor-mentee system as part of the EE programme, with the intent to supply continuous support to the participants (Jamaluddin *et al.*, 2019:121-123). The programme utilised community members as mentors. A mentor is assigned to each group. The mentoring system contributes meaningfully to moving the participating start-up companies forward (Jamaluddin *et al.*, 2019:121-123). The next paragraph discusses peers as mentors.

Peers as mentors

Abou-Warda (2016:699) concluded that technology entrepreneurship education (TEPE) could be presented in different formats, for example, a training programme, academic programme or even peer coaching. Entrepreneurship education must include skill-building courses like leadership, creative thinking and mentoring (Abou- Warda, 2016:706). Some of the suitable pedagogy of the TEPE programme that the participants identified included the following: (1) the use of labs and classrooms, (2) networking and (3) mentoring (Abou- Warda, 2016:712). Research conducted on the model of EE indicated that a tutor system forms an important part of the cycle of EE (Yang *et al.*, 2018:570). The following paragraph discusses the training providers and local entrepreneurs as mentors.

Training providers and local entrepreneurs as mentors

Koyana and Mason (2017:1410-1411) conclude that with rural EE programmes, it is important that the training providers act as the aspiring entrepreneur's primary mentors and coaching. The State Council on Promoting Public Entrepreneurship and Innovation in China highlight the importance of mentoring for young entrepreneurs. The drive towards the focus on mentoring is due to the research findings that entrepreneurial success is largely positively influenced by mentoring (Koyana & Mason, 2017:1410-1411). The LAB studio model uses coaching and mentoring by teachers and industry experts as an important component of the training programme (Heikkinen & Stevenson, 2016:5-10). The EE programme developed by the University of Cenderawasih (Uncen) utilises local businesspeople as coaches and mentors (Blesia *et al.*, 2019:62). The study by Boldureanu *et al.* (2020:8) highlighted the importance of assigning local entrepreneurs as a mentor to each participant in the EE programme. This creates a more hands-on, practical experience for aspiring entrepreneurs. The WEP developed by Botha *et al.* (2007:167) highlighted the importance of mentors and the importance of the participant/mentor relationship continuing, even after completing the formal EE programme. The following paragraph assesses the importance of reflection as part of entrepreneurial training and development.

4.4.3.4 Reflection as part of entrepreneurial training and development

The consultant mentor can also contribute to the development of the aspiring entrepreneur by facilitating the reflection process (Bell & Bell, 2016:6). Reflection on learning experiences form an important part of the experiential learning model and is considered critical in assisting students in applying what they have learned (Farber *et al.*, 2015:348; Li, 2011:3-4; Zheng *et al.*, 2009:3). The BMC is an adapted tool for decision-making, visualisation, collaboration, creative thinking and reflection (Lima & Baudier, 2017:174). The EE programme for first-year students at a Chinese university included time for structured reflection (Bell, 2020:3). The feedback from the participants highlighted the perceived significance of reflection, which empowered participants to maximise the value derived from the authentic “learning by doing” process (Bell, 2020:9). Zeng and Honig's three conceptual EE models (2016:254-265) include reflection as a primary component in the second conceptual model, focussing on students with prior entrepreneurial experience. Students need to reflect on both the good and the bad components of their previous entrepreneurial experience. The case study by Awaysheh and Bonfiglio (2017:337-341) of a social EE programme by Emzingo presented at various business school demonstrate that the experiential learning process at its core has six propositions, the third proposition state the learning process requires reflection and action in the mind of the student. Learners need to think critically about the problem and reflect on the causes (Awaysheh & Bonfiglio, 2017:334). Effective learning programmes must create space for thinking, feeling, acting and reflection (Awaysheh & Bonfiglio, 2017:337-341). The paper by Costello (2017:647) reviews the problem-based EE programme for mechanical engineering students. Costello (2017:647) highlighted that the module review process includes feedback and reflection. The LAB studio model trusts heavily on reflection and coaching as modes of education (Heikkinen & Stevenson, 2016:10). The following paragraph will discuss the use of the business model, business plan or lean start-up as part of entrepreneurial training.

4.4.3.5 Use of Business Model, lean start-up or business plan for entrepreneurial training and development

Business plan

The contents of EE programmes vary depending on factors like the needs of the students, the lecturers, the programmatic and institutional context. However, writing a business plan is usually an essential component of the EE programme (García-Rodríguez *et al.*, 2017:11; Watson & McGowan, 2019:33; Zeng & Honig, 2016:238). Business plan development is considered a fundamental entrepreneurial activity (Li, 2010:1; Wang & Chen, 2013:49). The

business plan is a static document that includes an identified business problem or opportunity and the start-up's intended solution (Parreira *et al.*, 2015:252-253; Zeng & Honig, 2016:238). The business plan also includes a marketing plan, operational plan and a five-year financial plan with projected expenses, income and profits (Watson & McGowan, 2019:33; Zeng & Honig, 2016:238). Promotors of the business plan argue that the business plan allows start-up entrepreneurs to show potential stakeholders the business opportunity and the proposed plan to exploit the business idea (Watson & McGowan, 2019:33; Zeng & Honig, 2016:238). The business plan also provides a roadmap for start-up entrepreneurs (Watson & McGowan, 2019:33; Zeng & Honig, 2016:238). The belief is that if start-up entrepreneurs perform their planning cautiously, the chances of business success increase substantially (Zeng & Honig, 2016:238-239). The business plan's underlying assumption is that aspiring entrepreneurs can accurately predict what will happen in the future before they even start to implement their ideas (Zeng & Honig, 2016:239). The critics of the business plan approach argue that the assumption mentioned above is impossible. The critics point out that entrepreneurs have to deal with a lot of uncertainty, making it impossible to accurately predict the future (Watson & McGowan, 2019:34; Zeng & Honig, 2016:239). Watson and McGowan (2019:34) argue that the usefulness of the formal written business plan has been overstated in EE. The business model is discussed in the following paragraph.

Business model

There is no standard definition for a business model. Osterwalder and Pigneur (2010:15) propose a growing consensus that business models act as a theoretical link between business strategy, the business organisation and the systems required to create, deliver, and capture value. Teece (2010:179) argues that the business model is a framework that conveys the reasoning, data and other evidence to support a value proposition to customers, including feasible cost and revenues for the business delivering the value. Business model frameworks are handy tools to facilitate group ideation and innovation (Lima & Baudier, 2017:161). The BMC by Osterwalder is considered the most widely adopted framework for business model innovation in academia (Lima & Baudier, 2017:162). The BMC is a framework (computer or paper-based) that aids the facilitation process of refining, formulating and conveying business model strategies (Lima & Baudier, 2017:160). The EE programme for fashion entrepreneurs utilises creating a business model as the starting point of the training programme (Jamaluddin *et al.*, 2019:121). The perceived benefits of the BMC divided into practical- and perceptive benefits are shown in Table 4.10.

Table 4.10: Perceived benefits of business model objects

Description	Business model activities
Practical benefits	
Associated with the anticipated organisational outputs of business model innovation activities	Communication Performance Innovation
Perceptive benefits	
Associated to the intellectual process of individuals and groups using the business model as an innovation tool	Creative thinking Decision-making Visualisation Collaboration Reflection

Source: Adapted from Lima and Baudier (2017:164)

The division of the expected findings into practical and perceived benefits is in line with the assumption that the BMC is essentially a decision-making tool used for making collaborative and individual decisions about organisational effectiveness. Users use the BMC because they expect the BMC to contribute to the efficacy (a better functioning organisation that can communicate effectively with all stakeholders and improve the innovation strategy) and efficiency (develop better processes to manipulate the variables in the decision-making process visually) of the business.

Criticism of the BMC include:

- The BMC does not fairly represent the relationship between the different elements, so Euchner and Ganguly (2014:35) argue that a strong business model cannot be generated by brainstorming the fundamentals of a business model using the BMC.
- The BMC fails to represent some of the strategic elements, for example: (a) the economic leverage points and (b) the competitive position of the company (Euchner & Ganguly, 2014:35-36; Lima & Baudier, 2017:164-165).
- The simplicity of the BMC can be considered as both a weakness and a strength: (a) a weakness because of the limited detail of each element, and (b) the strength is the fact that the BMC is promptly applicable (de Reuver *et al.*, 2013:4; Lima & Baudier, 2017:164-165).

- Highly structured models like the BMC must be wisely designed to avoid limiting creativity and free thought while offering adequate specialised functionality (Lima & Baudier, 2017:165).

The lean start-up is discussed in the following paragraph.

Lean start-up

In recent years, the lean start-up approach has emerged to address some of the weaknesses of more traditional business planning tools like the business plan (Zeng & Honig, 2016:239). With the lean start-up approach, a start-up is defined as "a human institution designed to create a new product or service under conditions of extreme uncertainty" (Ries, 2011:8; Zeng & Honig, 2016:239). Lean start-up is rooted in Toyota's lean manufacturing principles adapted to the entrepreneurship context. The claim is that lean start-ups present a new methodology for creating innovation and assisting with the management of new businesses (Zeng & Honig, 2016:239). The lean start-up approach does away with the complex traditional planning and the long-term product development to instead focus on authenticated testing, quick customer feedback and a more iterative product design (Ries, 2011:8; Zeng & Honig, 2016:239). The lean start-up is linked to the BMC and uses the BMC's nine building blocks to sort and test all hypotheses. With lean start-up, the focus is on testing and validating the hypotheses as quickly as possible (Zeng & Honig, 2016:239-240). Lean start-up applies the validated learning experiment concepts, where the entrepreneur develops a minimum viable product and shows the product to the customer to get quick feedback, measure the response, learn from the findings and be able to decide to keep the hypothesis or pivot (Zeng & Honig, 2016:240). The lean start-up has achieved rapid popularity in the start-up world, also at many business schools and outside the university (Zeng & Honig, 2016:240). Despite the popularity of the lean start-up model, there is some criticism (Zeng & Honig, 2016:240):

- The approach is not built on solid theoretical foundations.
- Limited theoretical and imperial evidence is available to support the proposed arguments embedded in the lean start-up model.

The use of case studies for entrepreneurial training will be discussed in the following paragraph.

4.4.3.6 Use of case studies for entrepreneurial training and development

Entrepreneurial teaching should focus on the transfer of knowledge and the development of a collection of transferable skills that include leadership, teamwork, problem-solving, creativity and communication (Zheng *et al.*, 2009:3). Galloway *et al.* (2005:17) argue that guest speakers, role models and case studies can inspire aspirant entrepreneurs and increase their entrepreneurial intent and urgency to start their own business. Henry and Treanor (2012:493) conclude that veterinary students preferred practical training, like case studies in their EE instead of traditional lectures. The potential employers of the students shared this sentiment. The use of case studies assists students to answer “know-when” type questions, for example: (1) When would be the right time to move ahead with the business? (2) Is this a good project fit for my profile? (Awaysheh & Bonfiglio, 2017:333; Fayolle & Gailly, 2012:579). Awaysheh and Bonfiglio (2017:333) conclude that case studies in the EE programmes at business schools are an excellent experiential learning tool that positively contributes to the student's understanding of the entrepreneurial environment. The use of case studies linked to the situation and topic students are studying, significantly contributes to the students' motivation and understanding of the content (Wahyuningsih *et al.*, 2018:452). The study by Iglesias-Sánchez *et al.* (2019:15) identified real case studies as the number one preference of students in the study of entrepreneurship.

4.5 INITIAL ENTREPRENEURIAL EDUCATION FRAMEWORK FROM THE SYSTEMATIC LITERATURE REVIEW FINDINGS

The findings of the SLR reported in Chapter 4 are summarised as an initial EE framework in Table 4.11. The SLR indicated that EE can no longer have a one-size-fits-all approach. Developers of EE interventions must answer the following questions before designing the intervention: (1) what the reason for the training is, (2) who is the target audience and (3) what are the needs of the target audience. The international trends show a move towards continuous learning, knowledge learning and evidence-based learning that include entrepreneurial skills as well as soft skills training. Some existing foundational EE models have been identified in the SLR. These models include the Camp Model of entrepreneurial training and the use of business competitions.

Table 4.11: Entrepreneurship education framework from the systematic literature review findings

Creating an initial entrepreneurship education framework from the SLR findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
The reason for the training should be clearly described.		
Who is the target audience? What are their needs? These groups can include: Special groups like female entrepreneurs, youth, accountants, students and engineers.		
Custom-designed training based on target audience needs.	Identify the specific needs of the target audience.	
	Design content that targets competencies and skills required by the target audience.	**<u>Specific entrepreneurial skills</u>**: Problem-solving skills Critical thinking skills Decision-making skills Innovation methods Business model/Business plan Teamwork Leadership skills Engage – Complicated stages of the entrepreneurial process

Creating an initial entrepreneurship education framework from the SLR findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
<u>Values:</u> Flexibility, locus of control (participants) and participant responsibility		
<u>Pedagogy:</u> Approaches to entrepreneurship training and development:	**Continuous entrepreneurial training and development**	
	Knowledge and evidence-based training and development	**<u>Know-what (Part of Experience)</u>** Organisation Management Finance Marketing Business Business Law **<u>Know-who (Part of Experience)</u>** Networks or People Venture Capitalist Company

Creating an initial entrepreneurship education framework from the SLR findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
		<u>Know-how (Skills)</u> Production and operation Equipment and procedure management Space management Supply chain management Recognition and evaluation of the commercial opportunity Risk management Relational network Problem-solving
	Personalised entrepreneurial training and development for unique groups	New theoretical perspectives Sound evaluation process

Creating an initial entrepreneurship education framework from the SLR findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
Entrepreneurial training and development strategies		
	Entrepreneurship skills	Creativity and innovation Critical thinking Decision-making methods Entrepreneurship Finance and law Idea generation and concept development Initiative Learning methods Administrative Management and technological skills Market knowledge Market research skills New opportunity creation Organisational skills Project engagement Problem-solving Marketing and sales Self-confidence Self-directed learning skills Self-motivation Taking calculated risks Teamwork Tenacity Time management Financial management Use of business model canvas Use of business plan

Creating an initial entrepreneurship education framework from the SLR findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Problem-based learning	Active learners learn by solving problems
	Learning by doing	**<u>Skills</u>** Active involvement Applying Knowledge Conceptualisation Creating an actual business Creative thinking Develop independence
		<u>Teaching tools/Methods</u> Action and experiments Action learning Business Simulation Concrete experience Mentoring Use of Hackathons

Creating an initial entrepreneurship education framework from the SLR findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Soft skills training	**<u>Important soft skills to include in entrepreneurial training:</u>** Leadership Creativity Propensity to take risk Wakefulness Teamwork Communication skills Problem-solving skills Self-confidence Achievement motivating skills Internal locus of control Resilience Self-efficacy Planning skills Budgeting Skills
	Use of key speakers, role models and storytelling	The use of key speakers and role models is part of fundamental entrepreneurial activities
Entrepreneurial training and development support		
	Entrepreneurial training and development facilitation	The teacher as facilitator: It is not about what is taught (didactic knowledge), but rather how knowledge is applied (behavioural)

Creating an initial entrepreneurship education framework from the SLR findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Business incubation support and entrepreneurial encouragement for entrepreneurial training and development	Use of a business competition Use of a pre-incubator Use of an incubator Mentoring & aftercare
Scope: Introduction for new entrepreneurs or advanced for existing entrepreneurs **Methods: Existing foundational entrepreneurial training and development**		
	Camp Model of entrepreneurial training	Fixed period, away from the normal learning environment
	LAB studio model of entrepreneurial training	Laboratory environment approach
	Use of business competition, business simulation and serious games for entrepreneurial training	Business plan competition/ use board games / electronic games / serious games as a learning tool
	Creativity, creative thinking and innovative entrepreneurship for entrepreneurial training	Important to include creativity training

Creating an initial entrepreneurship education framework from the SLR findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Experiential training model, experiential training and learning for entrepreneurial training	Learning while actively involved in the learning process
Existing entrepreneurial training and development strategies		
	Creating networking opportunities for entrepreneurial training and development Entrepreneurial Competencies for entrepreneurial training and development Reflection as part of entrepreneurial training and development Mentorship for entrepreneurial training and development Use of business model, lean start-up or business plan for entrepreneurial training and development Use of case studies for entrepreneurial training and development	Utilising networking opportunities is an important component of entrepreneurial education Include business creation and management skills in the training Soft skills Entrepreneurial conviction

Creating an initial entrepreneurship education framework from the SLR findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
Test Knowledge transfer	Analysing existing entrepreneurial training and development model outcomes	Evaluation of entrepreneurship education outcomes

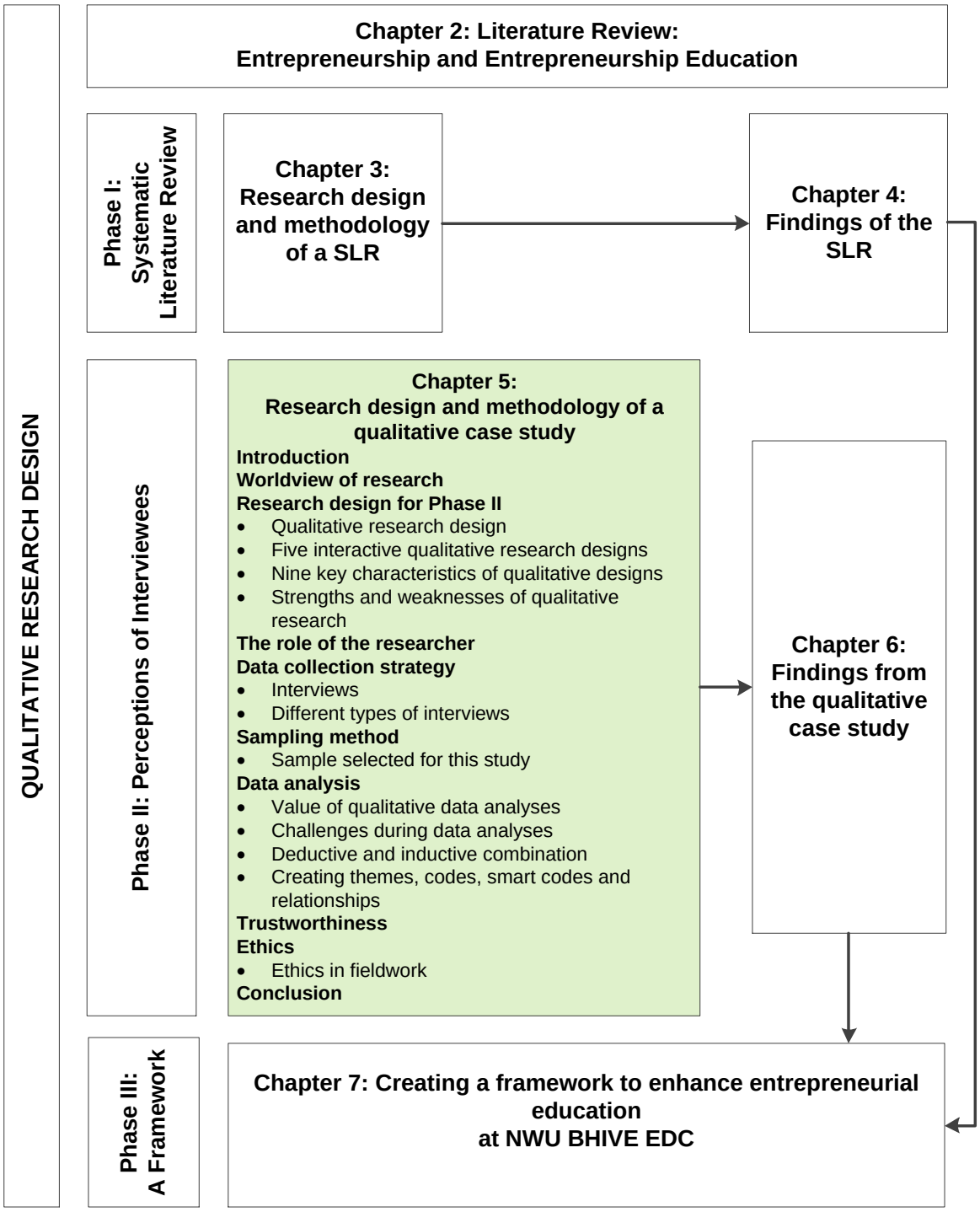
Source: Own compilation

4.6 CONCLUSION

Chapter 4 reflects the findings of the SLR, starting with an overview of EE teaching and training, the entrepreneurial process, EE model and framework and teaching framework. The components of the approaches to entrepreneurship training include personalised education and unique groups, evidence and knowledge-based education and continuous learning. The findings show that entrepreneurship education is moving away from a traditional classroom-based, one-size-fits-all approach to a more flexible approach that allows for custom-made EE based on the needs and requirements of the participants. The teaching approach shifted to learning by doing and an experiential approach. EE and training initiatives should include both soft skills and entrepreneurial skills training. The important soft skills identified in the SLR include: (1) creativity, (2) problem-solving skills, (3) tenacity, (4) leadership, (5) and time management skills. Important entrepreneurial skills include: (1) entrepreneurial thinking, (2) innovation, (3) critical thinking, (4) and decision-making skills. Developers of EE initiatives can utilise some existing foundational entrepreneurial training models to guide the development of custom-made models EE initiatives suited to the needs of their specific target market. The existing foundational training models include using a business model, business plan or lean start-up, use of case studies, entrepreneurial competencies, reflection, mentorship and creating networking opportunities. Developers can tap into entrepreneurial training support. Entrepreneurial training and development support include entrepreneurial encouragement, business training and incubation support and teacher as facilitator. The important EE components and findings from the SLR were condensed into the initial EE framework. Chapter 5 discusses the methodology for a qualitative study used to analyse the interviews conducted with the participants who completed the EWP.

CHAPTER 5
PHASE II RESEARCH DESIGN AND METHODOLOGY OF A QUALITATIVE CASE STUDY

Figure 5.1: Creating a framework for enhancing entrepreneurial education at the bhive EDC of the NWU,



Source: Own compilation

5.1 INTRODUCTION

Chapter 5 focuses on the qualitative research design and methodology followed for Phase II of the qualitative research design and methodology (Figure 5.1). A qualitative case study was used to address the research objective. *What are the successes and shortcomings of the existing EWP?* This chapter recaps the (5.2) worldview (explicated in § 3.2.1), (5.3) describes in detail the: qualitative research design, characteristics of qualitative research, strengths and weaknesses of qualitative research, (5.4) the role of the researcher in qualitative research, (5.5) data collection strategies for qualitative research, (5.7) data analysis techniques, (5.8) the trustworthiness of qualitative research and the (5.9) ethical considerations of Phase II of this research.

5.2 WORLD-VIEW OF PHASE II OF THE RESEARCH

The study was based on the interpretive research design paradigm (Ardalan, 2018:3; Burrell & Morgan, 1979:28), as explicated in Chapter 3 (§ 3.2.1). The interpretive theorists seek to understand the world as it is (Burrell & Morgan, 2005:28; Hussain *et al.*, 2013:2375). The interpretive researcher extracts an interpretation of human social activities and experiences by seeking to understand a social phenomenon's values, beliefs, and meanings. According to interpretivists, all social research is interpretive as they believe understanding cannot be separated from interpretation (Hussain *et al.*, 2013:2375). As described in Chapter 3 (§ 3.2.1.1-2), the ontology elucidated that social reality is constructed when humans engage in social activities through their rational skills. Interpretivist research is rooted in the constructionistic view that the world is a changing social process produced by individuals (Burrell & Morgan, 2005:28).

5.3 RESEARCH DESIGN FOR PHASE II OF THE RESEARCH

The following section discusses the research design for Phase II of this research.

5.3.1 Qualitative research design

Researchers use qualitative research methods to address the how and why of human behaviour, experience and opinions. They seek to gain an understanding of a phenomenon that is normally more difficult to obtain with the use of quantitative orientated data collection methods (McMillan & Schumacher, 2014:31). Qualitative research includes various forms of inquiry, with the main purpose of understanding a phenomenon, explaining the purpose and explaining a context (McMillan & Schumacher, 2014:31). Qualitative research is based on people's experiences. Qualitative data are mostly in the form of words rather than numbers. The researcher uses various

methods to search and explore the data to achieve a deep understanding (McMillan & Schumacher, 2014:31). As Phase II of the research aimed to explore the EWP participants' experiences when they participated in the EWP (face-to-face and online), a qualitative research design was used to gain their experiences when they participated in the programme.

5.3.2 Five interactive qualitative research designs

There are five interactive qualitative designs, which can be grouped into two categories (Table 5.1): (i) individual lived experiences (phenomenology, case study, grounded theory and some critical studies), and (ii) culture and society (ethnography and certain critical studies) (McMillan & Schumacher, 2014:31-32; Merriam & Tisdell, 2016:14,16).

Table 5.1: Interactive qualitative designs

Interactive qualitative design	Description
Phenomenology	Portrays the meaning of a participant's experience. The researcher puts aside prejudgements and collects data on how the individuals make sense out of specific situations or experiences.
Case study	Examines an enclosed system or a specific case in-depth over time, utilising multiple sources of data available in the setting.
Grounded theory	Detailed description and analyses of the phenomenon are the trademarks of qualitative research. Grounded theory takes this detailed description and analyses one step further to develop detailed concepts or conditional propositional statements that relate to a particular phenomenon.
Ethnography	Interpretation and description of a social or cultural group or system.
Critical studies	Researchers conducting critical studies draw from feminist theory, critical theory, race theory and post-modern perspectives that assume that knowledge is subjective.

Source: (McMillan & Schumacher, 2014:32)

5.3.2.1 Phenomenology

The purpose of phenomenology is to convert lived experience into a description of its "essence" permitting for analyses and reflection. Characteristically researchers conduct long interviews with participants aimed at understanding their perceptions of their everyday lived experiences with the phenomenon (McMillan & Schumacher, 2014:32; Merriam & Tisdell, 2016:25).

5.3.2.2 Grounded theory

Grounded theory methodology is a meticulous set of procedures for producing substantive theory. The data analyses simultaneously employ induction, deduction, and verification techniques by using a constant comparative method (McMillan & Schumacher, 2014:32; Merriam & Tisdell, 2016:31). The data collection is conducted in multiple stages. The researcher is responsible for collecting primarily interview data by making multiple visits to the field. The purpose of the initial data collection is to gain a variety of perspectives on the phenomenon (McMillan & Schumacher, 2014:32; Merriam & Tisdell, 2016:31). Secondly, the researcher uses constant comparison for analyses over categories of information. Data collection only stops once data saturation is achieved (McMillan & Schumacher, 2014:32; Merriam & Tisdell, 2016:31). Lastly, the researcher selects the central phenomenon, develops the storyline and proposes a conditional matrix specifying the historical and social conditions and consequences that influence the phenomenon (McMillan & Schumacher, 2014:32; Merriam & Tisdell, 2016:31).

5.3.2.3 Ethnography

With a focus on learned patterns of language, actions, rituals, beliefs and ways of life, the process of ethnography involves prolonged fieldwork through the use of observation and casual interviews with participants of shared group activity and assembling group objects. The researcher employs a documentary style that focuses on the mundane details of everyday life that uses the observation skills of the inquirer (McMillan & Schumacher, 2014:31; Merriam & Tisdell, 2016:28).

5.3.2.4 Critical studies

According to critical studies researchers, the community essentially is structured according to race, status, class, ethnicity, sexual orientation and gender. This means that a patriarchal community continues to oppress marginalised groups (McMillan & Schumacher, 2014:32; Merriam & Tisdell, 2016:59). Critical researchers distrust most research designs that ignore the power of relationships implied in the data collection techniques. Feminist and ethnic researchers focus on race and gender as the problems of the study, while postmodernism and critical theories focus more on social institutions and the community (McMillan & Schumacher, 2014:32).

5.3.2.5 Case study

The case can be an event, an activity, a programme or a set of individuals constrained in space and time. It is up to the researcher to define the case and its borders. The researcher can select a case due to its uniqueness or use it to illustrate an issue (McMillan & Schumacher, 2014:32).

The use of a case study promotes a better, in-depth understanding of an issue or practice and facilitates informed decision-making (McMillan & Schumacher, 2014:362,371). The focus can be one entity (within-site) or several entities (multisite study) (McMillan & Schumacher, 2014:32; Merriam & Tisdell, 2016:37). This study was a case study as it focuses on a specific programme, the EWP presented at the bhive EDC. Only participants who completed the EWP qualified to be interviewed for this study (McMillan & Schumacher, 2014:32). The next section discusses the nine key characteristics of qualitative research.

5.3.3 Nine key characteristics of qualitative designs

There are nine key characteristics that should be taken into consideration when engaging in qualitative research. Table 5.2 summarises the characteristics with a detailed explanation in the following section.

Table 5.2: Nine key characteristics of qualitative designs

#	Characteristic	Description
1	Complexity of explanation and understanding	Explanations and understandings are multifaceted, with several perspectives.
2	Context sensitivity	Situational factors must be considered.
3	Direct data collection	The researcher collects data directly from the source.
4	Emergent design	The design is not stagnant but changes and evolves as the study takes place.
5	Inductive data analyses	Generalisations are generated from combining gathered information.
6	Natural settings	Behaviour is studied as it occurs naturally.
7	Participant perspectives	The focus must be on participants' descriptions, understanding, meaning and labels.
8	Process orientation	The focus must be on why and how behaviour transpires.
9	Rich narrative	The narratives must be detailed to provide an in-depth understanding of behaviour.

Source: Adapted from McMillan and Schumacher (2014:32)

5.3.3.1 Complexity of explanation and understanding

A central theme of qualitative research is the view that the world is complex and that explanations for human behaviour are normally complex. Human behaviour is the result of the interaction of

multiple factors. Therefore, the methods used to investigate behaviour as well as the explanations should be appropriately complex to capture the true meaning of the occurrence (McMillan & Schumacher, 2014:349; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140). This complexity guides researchers to examine numerous perspectives. Qualitative researchers also understand that it is not possible to account for all the complexities present in any situation (McMillan & Schumacher, 2014:349; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140). Situational context is an important component in understanding behaviour. This is informed by the belief that the environment strongly influences human behaviour they occur in (McMillan & Schumacher, 2014:346). Any explanation of behaviour that does not reflect the context is considered incomplete. This motivates qualitative researchers to be context-sensitive (McMillan & Schumacher, 2014:346; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140). The understanding is that meaning is guided by political, social, race, gender, technological and class factors. These factors create a "lens" that the researcher uses to interpret the behaviour (McMillan & Schumacher, 2014:346).

In contrast to quantitative research, in a qualitative study, the researcher will act as an observer in the setting being studied, either as an observer, interviewer, or as the person studying the documents (McMillan & Schumacher, 2014:346). The qualitative researcher prefers to get information directly from the source, so they spend a lot of time interacting with the participants, settings and documents being studied. The researcher is, therefore, the research tool (McMillan & Schumacher, 2014:346; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140).

With qualitative research, the emphasis is on inducting reasoning rather than formulating a hypothesis and then gathering data to prove or disprove the hypothesis (deduction), in contrast, the data are first collected and then synthesised inductively to create generalisation (McMillan & Schumacher, 2014:347; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140). The theory is developed from the bottom up from the detailed particulars, rather than from the top down. This is an important approach for the qualitative researcher as the researcher wants to be open to new ways of understanding the data (McMillan & Schumacher, 2014:347).

5.3.3.2 Context sensitivity

The qualitative researcher needs to develop context sensitivity as context sensitivity is very important to understanding behaviour. There is a solid belief that human actions are intensely affected by the settings in which they occur (McMillan & Schumacher, 2014:346). It is also important to understand the larger context in which the research is conducted, for example, the political, social, race and gender factors (McMillan & Schumacher, 2014:346).

5.3.3.3 Direct data collection

The qualitative researcher normally acts as an observer in the setting that is studied, either as the person studying the documents or artefacts or as the interviewer (McMillan & Schumacher, 2014:346). The qualitative researcher prefers to get information directly from the source (McMillan & Schumacher, 2014:346).

5.3.3.4 Emergent design

The main difference between quantitative researchers and qualitative researchers is that qualitative researchers enter the investigation as if they know very little about the places and people they will visit to mentally cleanse their preconceptions (McMillan & Schumacher, 2014:347). The impact of this approach is that the qualitative researcher does not know enough to begin the study with a precise research design. The full account of the methods followed is only done retrospectively after the completion of the data collection process (McMillan & Schumacher, 2014:347).

5.3.3.5 Inductive data analyses

The qualitative researcher does not follow the deductive process of formulating hypotheses and gathering data to disprove or prove the hypotheses (McMillan & Schumacher, 2014:347). The qualitative data are collected first and then synthesised inductively to generate generalisations. The qualitative researcher focuses on inductive reasoning (McMillan & Schumacher, 2014:347; Merriam, 2009:154).

5.3.3.6 Natural settings

Qualitative research is distinguished from quantitative research by the fact that the behaviour is studied as it occurs naturally, without any control or manipulation of the behaviour or setting and any externally imposed constraints (McMillan & Schumacher, 2014:345-346). The setting is an actual context or space. That is why qualitative research is revered as fieldwork (McMillan & Schumacher, 2014:345-346).

5.3.3.7 Participant perspectives

Qualitative researchers aim to reconstruct reality from the position of the participant perspectives (how do the studied participants see reality). The qualitative researcher does not apply predetermined ideas or definitions about how participants will react or think (McMillan &

Schumacher, 2014:347; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140). Understanding participants from their points of view in their voices is the goal of qualitative research.

5.3.3.8 Process orientation

Qualitative researchers look for the process by which behaviour transpires as well as the reasons or rationalisations, not just the products or outcomes (McMillan & Schumacher, 2014:347). The emphasis of the qualitative study is on how the expectations are formed and how these expectations play out in the nature of the researchers' interactions with the participants (McMillan & Schumacher, 2014:347). The focus on the process allows for conclusions that can explain the reasons for the specific finding (McMillan & Schumacher, 2014:347; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140).

5.3.3.9 Rich narrative

Qualitative researchers consider all details as important nothing is unimportant or trivial. The researcher views each detail recorded as a contribution to the better understanding of behaviour (McMillan & Schumacher, 2014:346; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140). Qualitative descriptions are in a picture and words format, not numbers, although some simple numerical summaries are used in some qualitative studies. The qualitative study intends to provide "rich" descriptions that cannot be achieved when condensing pages of narration into numbers (McMillan & Schumacher, 2014:346; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140). The qualitative descriptions capture the observations in the same format in which they ensued naturally in the particular context. To obtain a complete understanding of the setting and accurately reflect the complex human behaviour it is necessary to follow a detailed approach (McMillan & Schumacher, 2014:346; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140). The accomplishment of these goals may necessitate studies that extend over a long time and require intense involvement by the researcher. Qualitative research typically culminates in extensive written reports (McMillan & Schumacher, 2014:347; Combs & Onwuegbuzie, 2010:2; Merriam, 2009:140).

5.3.4 Strengths and weaknesses of qualitative research

The following table summarises the strengths and weaknesses of qualitative research (Table 5.3).

Table 5.3: Strengths and weaknesses of qualitative research

Strengths	Weaknesses
Collect extremely rich data in an efficient manner.	Qualitative researchers must adhere to robust methodology to ensure high-quality research.
Unexpected findings from using qualitative methods can lead to the generation of new theory.	The use of qualitative research alone is not adequate to make population-level summaries.
The combination of qualitative and quantitative methods can provide a much clearer picture.	Policymakers may not value or understand the interpretive position, therefore, may not appreciate the importance of qualitative research.
Qualitative research is adaptable.	Qualitative research can be labour and time-intensive.
Qualitative research is subjective.	Correlation does not equal causation.
Qualitative research offers more opportunities for collaboration.	It is not easy to recognise patterns.
Qualitative research allows for more creative approaches.	

Source: Own compilation (Morgan, 2016; Naresh, 2021; Queirós *et al.*, 2017:378)

The strengths of qualitative research are discussed in Paragraph 5.3.4.1 and the weaknesses of qualitative research in Paragraph 5.3.4.2.

5.3.4.1 Strengths of qualitative research

The following strengths of qualitative research include the following:

- The qualitative researcher is inclined to collect very rich data effectively, without the limitations of a responder that answer a set of predefined questions. By analysing the totality of the participant's interaction/interview/story, it is possible to explore concepts of interest that can lead to the development of the novel theory (Morgan, 2016; Queirós *et al.*, 2017:378).
- The use of qualitative methods can lead to the creation of new theories from unanticipated findings that go against "established" understanding (Morgan, 2016; Queirós *et al.*, 2017:378).
- The researcher can get a complete picture when combining qualitative and quantitative methods. Qualitative research can provide important insights into the participant's beliefs, thoughts and attitudes regarding the intervention and its acceptability. These insights may not be evident from the evaluation of the quantitative outcomes (Morgan, 2016; Queirós *et al.*, 2017:378).

- Qualitative research is adaptable and can change in real-time, based on the feedback and response from the participants. While the research session continues, researchers can get feedback from the participants on the appeal of certain products, to give the company a more grounded understanding of how customers view their products (Naresh, 2021).
- Business decision-making is guided by understanding the "why" behind failures and successes. The qualitative researcher uses subjective questioning to allow participants to explain the rationale behind their decisions and behaviours, therefore, supplying the company with information needed to modify their products to better suit their target customers (Naresh, 2021).
- Qualitative research has more opportunities for collaboration between researchers of different backgrounds, using a single data set to provide multiple viewpoints. A researcher with experience in advertising will most probably view the data through a different lens than a human psychology researcher, leading to more rounded, richer analyses (Naresh, 2021).
- Qualitative research is a creative approach because qualitative research methods support the conception that everyone has a unique voice (Naresh, 2021). Qualitative research relies on description and qualitative discussions, which have the potential to allow the participants to take control, reversing the traditional researcher/responder dynamic. This approach allows for a more light-hearted approach that includes humour (Naresh, 2021).

As it was instrumental in engaging the EWP participants to develop the framework, a qualitative design was most applicable.

5.3.4.2 Weaknesses of qualitative research

- High-quality research can only be produced if the qualitative researcher adheres to a robust methodology. Poor quality qualitative work leads to misleading findings (Morgan, 2016; Queirós *et al.*, 2017:378).
- The use of only qualitative research is often inadequate to make population-level summaries, as the research was not designed for this purpose (Morgan, 2016; Queirós *et al.*, 2017:378).
- Policymakers may not understand or value the qualitative research process and, therefore, may not recognise the importance and value of qualitative research (Morgan, 2016; Queirós *et al.*, 2017:378).
- Conducting qualitative research can be time-intensive. It is a logistical challenge to conduct focus groups and multiple interviews. The comparing, coding and induction of the data requires intense concentration and requires the researcher to be fully immersed in the data.

This is a far more time-consuming process than statistical analyses of data (Morgan, 2016; Queirós *et al.*, 2017:378).

In order to mitigate the risk and weaknesses of qualitative research, certain trustworthiness processes were embedded throughout the study. The specific role of the qualitative researcher is discussed in Paragraph 5.4.

5.4 THE ROLE OF THE RESEARCHER

The qualitative researcher could take on interactive social roles where they record interviews and observations with participants in a variety of contexts. The researcher can take on different roles from a complete outsider, where the researcher is completely detached from the participants' naturally occurring activities and behaviours to a complete insider, where the researcher has a recognised role in the data collection setting (McMillan & Schumacher, 2014:374-375). Qualitative researchers often change their role as data is collected as the nature and duration of the role is determined by the situation (McMillan & Schumacher, 2014:374-375). The data collection strategies are often revised after the site selection, entry into the field and the initial mapping process have been completed (McMillan & Schumacher, 2014:375). For qualitative researchers, the emphasis is on the importance of data collection by a skilled, prepared person instead of an instrument (McMillan & Schumacher, 2014:20).

Qualitative researchers are noted for “disciplined subjectivity” and engage in critical self-examination (reflection) of the role of the researcher throughout the entire research process (McMillan & Schumacher, 2014:20,362). The qualitative researcher must develop a data selection strategy that fist his specific study. During this study, the researcher fulfilled the role of a participant observer. Two independent discipline experts conducted the interviews. Paragraph 5.5 discusses the different types of qualitative data collection strategies.

5.5 DATA COLLECTION STRATEGY

There are several data collection strategies that can be utilised to collect qualitative data from the participants.

5.5.1 Interviews

Semi-structured interviews with open-ended questions were conducted person-to-person via Zoom by experienced independent interviewers. The researcher was directly involved in the EWP training. The decision was made to use independent interviewers to avoid the risk of interviewees not being open and honest because they know the researcher. Annexures 3 and 4 encapsulate

the interview questions used to capture. The different types of interviews are discussed in Paragraph 5.5.2.

5.5.2 Different types of interviews

The selection of the interview strategy depends on the purpose and context of the study (McMillan & Schumacher, 2014:381):

- To establish the current perceptions, roles, activities, motivations, feelings, thoughts and concerns.
- To determine anticipated experiences or future expectations.
- To extend and verify external information acquired from other sources.
- To broaden or authenticate ideas and hunches developed by the researcher or participants.

Table 5.4 summarises the different types of interviews structures that can be used to collect data from the participants.

Table 5.4: Different types of interview structures

Standardised/highly structured	Informal/unstructured	Semi-structured
Predetermined wording of questions	Use open-ended questions	The interview guide includes a mixture of more and less structured interview questions.
Predetermined order of questions	Exploratory, Flexible	Only use flexible questions.
An interview is an verbal form of a written survey.	Conversation style	Used when specific data are required from all respondents.
Usually used in qualitative studies to obtain demographic data (gender, age, education etc.).	A valuable tool when the researcher knows very little about the phenomenon.	The major components of the interview are guided by a list of issues or questions to be explored.
Mostly used for quantitative studies.	The purpose is to learn from the interview to be able to formulate questions for future interviews.	Do not use a predetermined order or wording.
Examples: Census surveys, marketing surveys	Primarily used in participant observation, ethnography and case studies.	

Source: Merriam and Tisdell (2016:110)

Structured

Structured interviews have the questions and the order in which the questions are asked predetermined ahead of the interview (Merriam & Tisdell, 2016:109). The ultimate structured interview is a written survey in a verbal form (Merriam & Tisdell, 2016:109). Qualitative research interviewing is more open-ended and less structured (Merriam & Tisdell, 2016:110).

Unstructured

Unstructured interviews are used when the researcher does not know enough about a specific phenomenon to as relevant questions (Merriam & Tisdell, 2016:111). With unstructured or informal conversation interviews, the questions arise from the immediate context. The researcher asks the questions in the natural course of events with no prearrangement of question topics (McMillan & Schumacher, 2014:381). These informal conversations are an integral part of observing participants (McMillan & Schumacher, 2014:381). The use of highly structured interviews in qualitative research is not ideal as rigidly adhering to predetermined questions can constrain access to participants' perspectives and comprehension of the world (Merriam & Tisdell, 2016:109).

Semi-structured

Semi-structured interviews are a less structured alternative to the structured interview that is more suited to qualitative research (Merriam & Tisdell, 2016:110). The less structured interview formats assume that the individual participants define the world in unique ways. The qualitative researcher needs to design more open-ended questions (Merriam & Tisdell, 2016:110). With semi-structured interviews, the questions can be a mix of more and less structured questions or all the questions can be more flexible (Merriam & Tisdell, 2016:110).

The researcher made use of semi-structured interviews as a data collection strategy as it allowed the interviewee to probe during the interviews. The person-to-person interviews were conducted by experienced, independent interviewers on Zoom. Annexures 3 and 4 encapsulate the interview questions used to capture the perceptions and experiences of the EWP participants.

5.6 SAMPLING METHOD

Qualitative researchers use different sources of information, these include documents, groups, individuals, sites and reports. Irrespective of the data source or form, purposeful sampling is used (De Vos *et al*., 2005:328-330; McMillan & Schumacher, 2014:349). Using qualitative sampling aims to increase the efficacy of information attained from small samples (De Vos *et al*., 2005:328-

330; McMillan & Schumacher, 2014:349). The researcher must acquire information about variations among subunits before selecting the sample (De Vos *et al.,* 2005:328-330; McMillan & Schumacher, 2014:350). The qualitative researcher then searches for information-rich key groups, informants, events or places to study (De Vos *et al.,* 2005:328-330; McMillan & Schumacher, 2014:350). Therefore, the samples are selected based on their informativeness about the phenomena under investigation (De Vos *et al*., 2005:328-330; McMillan & Schumacher, 2014:350). The power of qualitative sampling lies in the fact that a limited number of cases studied in-depth will generate numerous insights about the topic (De Vos *et al*., 2005:328-330; McMillan & Schumacher, 2014:350). The process used to establish the number of interviews selected for this study is discussed in the next section.

The sampling processes used by qualitative researchers are dynamic, phasic and ad hoc rather than static. Unlike probability sampling, that have statistical rules, qualitative sampling only has guidelines (De Vos *et al.,* 2005:328-330; McMillan & Schumacher, 2014:352). The following guidelines are used to determine the sample size (Cohen *et al.*, 2011:157; De Vos *et al.,* 2005:328-330; McMillan & Schumacher, 2014:352):

- Purpose of the study: A descriptive/explanatory self-contained study will require more participants than a case study that is descriptive/explanatory, and a phenomenological study typically requires fewer informants to generate dense concepts than a grounded theory study.
- Focus of the study: An interview study employing network sampling would require more participants than a process focussed study located at one site.
- Primary data collection strategy: Qualitative researchers are directed by circumstances. A study may have a small sample size, but the researcher can frequently return to the same informants or situation to seek more information. For this reason, a qualitative study will usually report on the number of days in the field.
- Availability of informants: Not all informants are easy to identify and locate.
- Redundancy of data: The question is whether adding more individuals or returning to the field would generate new insights.
- Researchers submit the obtained sample size for peer review: In general, qualitative researchers propose a minimum sample size and will then add to the sample as the study develops.
- Sample selected for this study.

A purposeful sample of 14 participants was initially selected from the three sites where the EWP was presented to ensure that there was a representation of all the groups. The participants were selected to include participants who completed a face-to-face EWP before Covid-19 and those who completed the EWP as an online course. Figure 5.2 provides a map of the three campuses where the face-to-face EWP was presented. The three groups were participants who resided in the neighbouring town and suburbs of three NWU campuses.

Figure 5.2: Map of the three campuses of the NWU



The participants were selected to ensure that the researcher gets perceptions and experiences on both the face-to-face as well as online programmes. Interviews were conducted until data saturation was achieved. Nine interviews were conducted from the initial 14 interviews that were scheduled online.

The qualitative researcher's data analysis methods and helpful suggestions are discussed in Paragraph 5.7.

5.7 DATA ANALYSES

In qualitative research, the process of data collection and data analyses is a simultaneous and dynamic interactive process rather than a successive process. The researcher should analyse data as it is collected to be guided to find the next data. Analyses become more intensive once all the data are collected. Bogdan and Biklen (2007:160-171) propose ten helpful suggestions for analysing data as it is being collected:

Push yourself to make decisions that will narrow down the study. The qualitative researcher must demonstrate the discipline not to pursue all data. Otherwise, the researcher will end up with too scattered and inappropriate data for the chosen study. The more data available on a chosen topic, setting or subject, the easier it becomes to think deeply about it, and the more likely it is that the researcher will be more productive during the final analysis (Bogdan & Biklen, 2007:160). The researcher was guided by the interview schedule and the empirical objectives that had to be addressed in Phase II of the study.

Push yourself to make decisions about the type of study you want to accomplish. The researcher must be sure about the format of the study, for example, a complete description of a setting or the development of a theory on a specific aspect of the setting (Bogdan & Biklen, 2007:161). With the SLR conducted and literature probe in Phase I of the research, the researcher had a sound foundation of how the data analysis had to be approached (Chapters 3 and 4).

Develop analytic questions. Some of the qualitative researchers bring general questions to the study. These questions are important as they help the researcher to focus and organise the data collection. The researcher must evaluate the questions shortly after the start of the study and determine which questions are relevant to the study and which questions must be reformulated to be relevant to the study (Bogdan & Biklen, 2007:161). The empirical question, *What are the successes and shortcomings of the existing EWP?* and the interview schedule guided the data analyses process.

Plan new data collection sessions based on findings of previous observations. Qualitative researchers should review their memos and field notes at regular intervals as the study continues to identify specific leads to pursue in the next data collection session (Bogdan & Biklen, 2007:163). The researcher did not have field notes, however, after the first interview, the data were analysed in Atlas.ti 9 ™, and the interview schedule was adapted accordingly (Annexures 3 and 4).

Write as many observers' comments as possible during data collection. The observer's comments are to stimulate creative and critical thinking about what you observe to become more than just a recording machine (Bogdan & Biklen, 2007:163).

The researcher should write memos to himself about what he is learning. The memo-writing allows time to reflect on issues raised and how these fit into the larger methodological, theoretical and substantive issues (Bogdan & Biklen, 2007:164).

Try out themes and ideas on participants. During the interview process, the researcher can ask some of the participants what they think of a certain theme or pattern that the researcher thinks is developing. The idea is not to ask all the participants or to use all the feedback; it is merely a tool to assist with the analysis process under certain circumstances (Bogdan & Biklen, 2007:165).

The researcher should begin the exploration of the literature while still in the field. Once the researcher has been in the field for some time, it is good to review the literature that the researcher used while setting up the study (Bogdan & Biklen, 2007:169).

Play with analogies, concepts and metaphors. Researchers ought to ask the question "What does this remind me of?" to avoid falling into the near-sightedness trap (Bogdan & Biklen, 2007:169). The interviews used guided and probing questions to engage with the participants.

Use visual devices. Visualisation can assist the researcher in bringing clarity to the analyses (Bogdan & Biklen, 2007:170). The researcher made use of the data visualisation tools in Atlas.ti 9 ™ to create visual maps of how the data analyses unfolded.

As data collection is a continuous process, it can extend indefinitely. The question is how and when the researcher should decide that enough data are collected. Ideally, the process should stop when data saturation occurs (Merriam & Tisdell, 2016:199). Data saturation occurs when the data collection process produces no new insights or information (Merriam & Tisdell, 2016:199).

The following paragraph highlights the value of qualitative data analyses.

5.7.1 Value of qualitative data analyses

Qualitative data analyses can generate large amounts of data quickly. It is an effective method to obtain depth in data (Merriam & Tisdell, 2016:52,53,229-230,234-235). The qualitative data analyses process involves personal interaction; when the co-operation between the researcher and the participants is good, the result is useful information (Merriam & Tisdell, 2016:52,53,229-230,234-235). Qualitative data analysis is not without its problems and challenges.

5.7.2 Challenges during data analyses

Qualitative data analyses involve personal interaction, so co-operation with the participants is essential (Merriam & Tisdell, 2016:196-199). Qualitative researchers have to deal with participants who are unwilling to share or give untruthful responses. The researcher's questions may not evoke the desired response, or the response could be misconstrued (Merriam & Tisdell,

2016:196-199). Qualitative researchers utilise inductive as well as deductive reasoning as part of data analyses.

5.7.3 Deductive and inductive combination

Qualitative researchers use both inductive and deductive processes in the analyses of qualitative data. The inductive process is the primary analyses process (Merriam & Tisdell, 2016:17). The inductive analyses process is where the qualitative researcher creates meaning and synthesises the data. The process starts with specific data and ends with patterns and categories (McMillan & Schumacher, 2014:395,469). In this way, more conclusions and inferences emerge from the data rather than being forced on the data before data collection (McMillan & Schumacher, 2014:395,469). The researchers' inductive analyses of the raw data take priority over the use of computer programmes to assist in the process (McMillan & Schumacher, 2014:395,469). Deductive analyses methods test hypotheses against available data to reach a true and logical conclusion (Merriam & Tisdell, 2016:17,210-211). The researcher made combined inductive (new codes and code groups that emerged during the data analyses) and deductive (existing codes and themes that emerged from Phase I of the research) data analyses. Once the data analyses process is underway and some tentative categories emerge, the qualitative researcher can shift to include deductive analyses to test/confirm that these categories do exist in the subsequent data (McMillan & Schumacher, 2014:395; Merriam & Tisdell, 2016:14,210-211). The creation of themes, codes, and smart codes as part of the qualitative data analyses process is discussed in Paragraph 5.7.4.

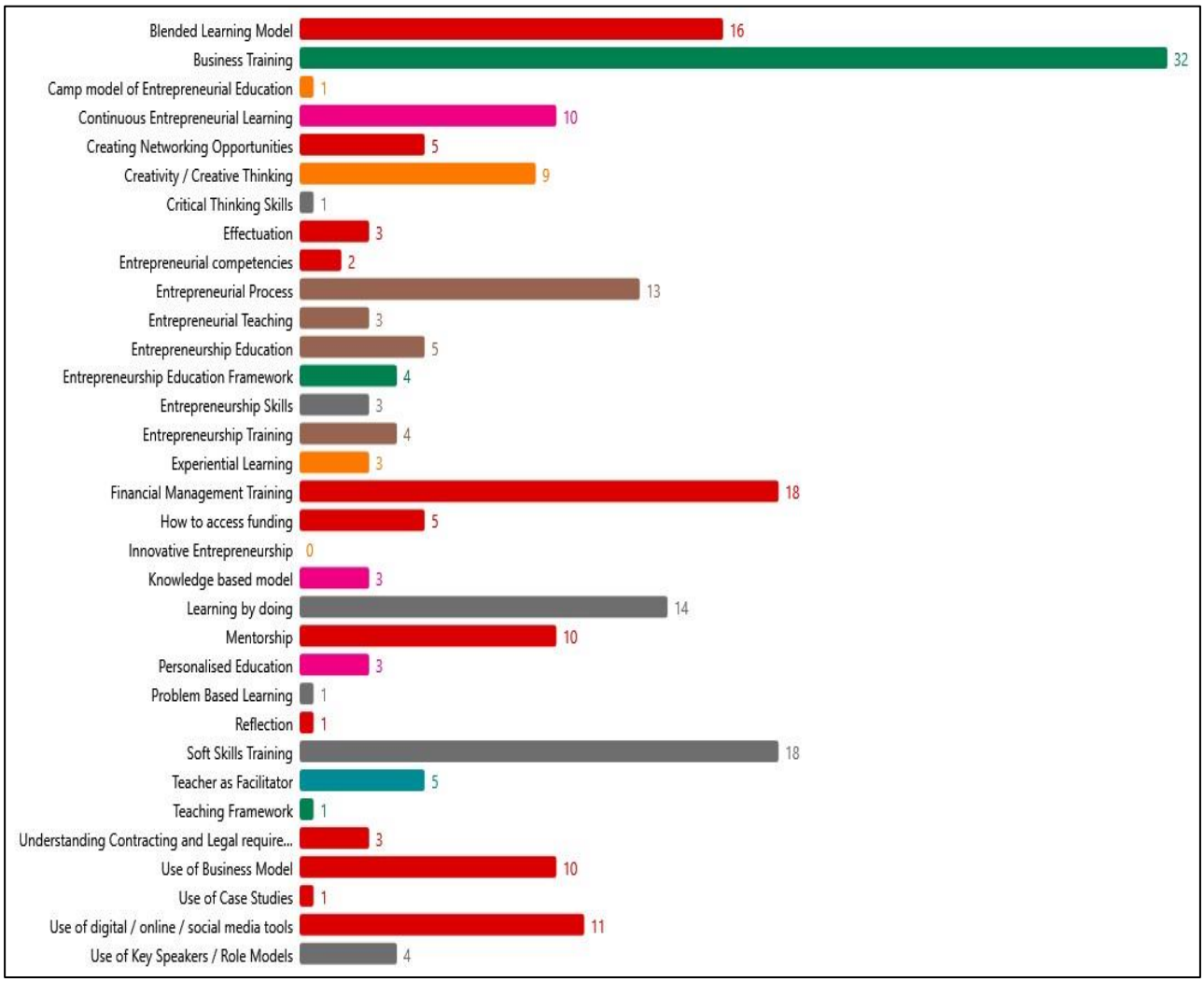
5.7.4 Creating themes, codes, smart codes and relationships

The researcher should devise a system to organise and manage data early in the study. This system involves "coding". Coding is where the researcher assigns a shorthand designation to various aspects of the data so that specific pieces of data can easily be retrieved (Merriam & Tisdell, 2016:199). These designations can consist of numbers, letters, single words, colours, phrases or a combination of these (Merriam & Tisdell, 2016:199). In general, a code is a short phrase or word that characteristically assigns an essence capturing, summative or evocative feature to a section of language-based or visual data (Merriam & Tisdell, 2016:199). Due to the volume of data collected over a relatively long period, the researcher needs to encode the data as it is collected. This will prevent data from being lost or diluted because data were not properly and timely documented (Merriam & Tisdell, 2016:200). The researcher should also keep track of his musings, thoughts, reflections, premonitions and speculations as he engages in the data analysis process. The information can be updated as field notes on the raw data. These field

notes can help the researcher greatly as he moves between the initial data analysis and the raw data (Merriam & Tisdell, 2016:200). It is recommended that the researcher handle the interviews' transcript rather than get someone else to do it, as this will help the researcher gain even more insight into the data (Merriam & Tisdell, 2016:200).

Qualitative researchers can organise the data manually or with the help of a computer program or a combination of the two (Merriam & Tisdell, 2016:201). The researcher should group the codes into categories or code groups, and then the code groups are grouped into themes or smart code groups to focus and compress the data (McMillan & Schumacher, 2014:394-409). The researcher used Atlas.ti 9 ™ to organise the data. The same codes, code groups and smart groups used in this study SLR were used to code the interviews. New codes not identified in the SLR were added to the codebook (Annexure 1). Using the same codes, code groups, and smart codes makes it easier to analyse and compare the data. Figure 5.3 shows the code book bar chart for the case study.

Figure 5.3: Code book bar chart



Source: Adapted from Kitchenham (2007)

Figure 5.3 summarises the occurrence of key codes as part of the case study. The most prominent codes identified in the case study include business training, financial management training, soft skills training, blended learning model, learning by doing, entrepreneurial process and the use of digital/online/social media tools.

Paragraph 5.8 discusses the importance of trustworthiness in data analyses.

5.8 TRUSTWORTHINESS

Research is concerned with producing reliable and valid knowledge in an ethical manner (Merriam & Tisdell, 2016:237). Qualitative and quantitative research approaches are different; the standards for thoroughness differ between qualitative and quantitative research (Merriam &

Tisdell, 2016:237). Trustworthiness or rigour of qualitative research pertains to the degree of confidence in data, interpretation and strategies utilised to ensure that the data analyses were conducted rigorously. Therefore, the researcher should establish certain criteria, protocols, and procedures beforehand to ensure that the data analysis is conducted with rigour. These criteria include credibility, dependability, confirmability, transferability and authenticity (Guba & Lincoln, 1994:105-117).

The credibility or the confidence in the truth of the study and findings, is the most important criterion technique used to establish credibility. Some strategies of credibility include engagement with participants, observation, peer debriefing, member-checking, and reflective journaling. The researcher made use of peer debriefing (with the promoters) and member-checking (with a colleague) to ensure the credibility of the data analysis findings.

Dependability relates to the stability of the data over time and over the conditions of the study (Connelly, 2016:435-436). Procedures for dependability included an audit trail of the peer debriefings with a colleague. Confirmability is the neutrality or the degree findings are consistent and could be repeated. During the data analyses, the researcher and peer conducted a code and data analysis checking to ensure the research's dependability and confirmability (Annexure 1).

The nature of transferability is the extent to which findings are useful and applicable in other settings (Connelly, 2016:435-436). A detailed description of the context, locations and participants ensures the transparency of the data collection and analyses (§ 5.6.1). The transferability of the findings of the interviews conducted with the EWP participants was ensured through a detailed description of the analyses as well.

Authenticity is the extent to which researchers fairly and completely show a range of different realities and realistically convey participants' lives (Connelly, 2016:435-436). The selection of appropriate people for the study sample and the provision of a rich, detailed description are ways the researchers address this criterion.

5.9 ETHICS

As qualitative research has a higher probability of being personally intrusive, the ethical guidelines include policies concerning deception, informed consent, anonymity, caring, confidentiality, and privacy. The challenge for fieldworkers is to apply these policies in complex situations (McMillan & Schumacher, 2014:362). To ensure that the research adhered to the ethical standard, the study was submitted to the faculty ethics committee for approval.

The EMS-REC ethics committee approved the study and provided the research with an ethics number NWU-00909-20-A4.

5.9.1 Ethics in fieldwork

The credible research design must adhere to research ethics, so qualitative researchers know how to deal with ethical problems while busy with interactive data collection. Examples of challenging data collection activities that can lead to profound ethical dilemmas include: (1) researchers that collect data from people potentially involved in illegal activities, after winning their trust, (2) investigating politically sensitive or controversial topics like lesbian and gay youth, violence in schools, drugs in schools/campus or families.

Fieldwork can also draw the researcher into unexpected morally challenging situations. Examples of questions a qualitative researcher may face: Should I record the confession, and if yes, do I include it in a public report? Do I witness the abuse, or should I turn away, if I see neglect or abuse, do I report it to the authorities? (McMillan & Schumacher, 2014:362). These questions indicate that it is challenging to separate research ethics from personal morality and professional ethics (McMillan & Schumacher, 2014:362).

Qualitative researchers' design creates roles that evoke trust, collaboration, acceptance and openness. Researchers also have to fulfill or assume certain roles, dress in a certain way, or allow themselves to be manipulated (McMillan & Schumacher, 2014:362). Researchers should never lose sight of the fact that participants give of themselves when adjusting their routines or priorities to help the researcher. The researcher is indebted to the participants and should find ways to show gratitude appropriately, within the constraints of research and personal ethics (McMillan & Schumacher, 2014:362). Some researchers collaborate with the participants and then share authorship. Researchers can also give some of their time, attention, feedback, appropriate "token" gifts or specialised services (McMillan & Schumacher, 2014:362).

Research ethics in fieldwork

Researchers use negotiation and discussion to solve ethical dilemmas during fieldwork. The research revolves around obtaining consensus on situational priorities (McMillan & Schumacher, 2014:362).

Informed consent as a dialogue

Qualitative researchers give participants assurances of anonymity and confidentiality as well as details on the intended use of the data as part of the process to gain permission. Each participant's

signing of an informed consent document is a required protocol of institutional review boards (McMillan & Schumacher, 2014:363). The researchers ensured that the participants gave consent for the interviews to be conducted. Before the interview commenced, the interviewer explained the consent process. The participants gave consent for the interviews to be recorded see Annexure 5.

Confidentiality and anonymity

The participants and their settings must not be identifiable in print. The locations and features of settings are disguised by making them more general and applicable to several possible places, and the researcher used code names for places and people (McMillan & Schumacher, 2014:363). As the interviewer conducted the interviews via Zoom, the location of the participants was not recorded, and any names were excluded once the data were transcribed from the audio files to text files.

Privacy and empowerment

Qualitative researchers should not violate privacy and informed consent. Researchers must inform and negotiate with participants so that the participants understand their power in the research process (McMillan & Schumacher, 2014:363). The researcher did not participate in the interviews to mitigate the power relations.

Caring and fairness

Physical harm to participants is rare in qualitative research. However, some participants may experience a loss of trust and humiliation. Researchers must have a sense of fairness and caring that forms part of their morality, thinking and actions (McMillan & Schumacher, 2014:363). The interviewer ensured that the participants were comfortable before, during, and after the interview.

5.10 CONCLUSION

This chapter discussed the qualitative research design and methodology utilised to do the interviews with the selected EWP participants and to analyse the data from the interviews. The study is considered a case study. Case studies examine an enclosed system or a specific case in-depth, over time, utilising multiple data sources available in the setting. In this instance, only participants of the EWP qualify to be interviewed. Researchers must consider the nine key characteristics of qualitative research when conducting qualitative research. The key characteristics are the complexity of understanding and explanation, context sensitivity, collecting data directly from the source, emergent design qualities, inductive data analyses, a study in

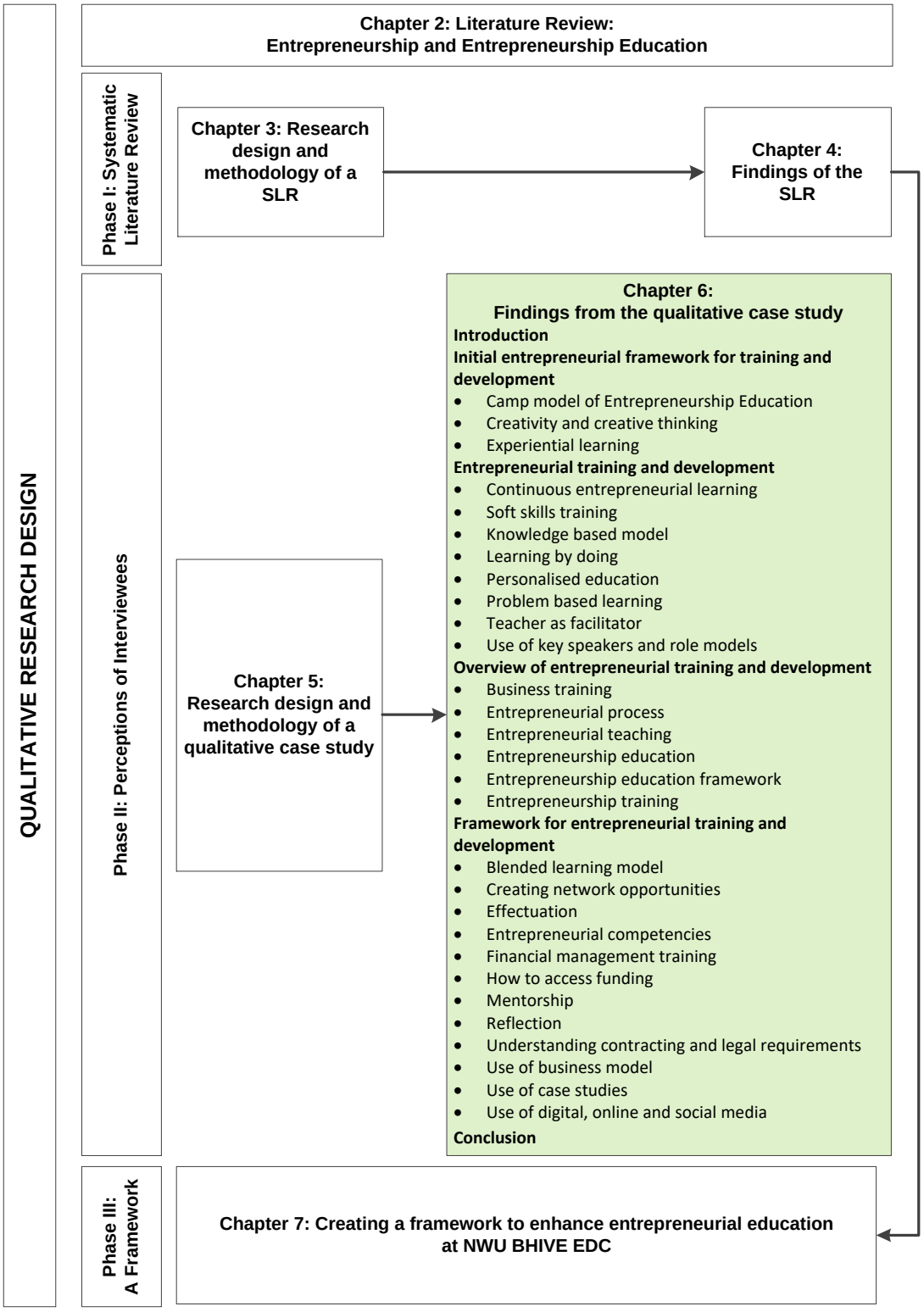
natural settings, focus on participant perspective, how and why behaviour transpires, and rich narrative.

Purposeful sampling was used to select the sample of EWP participants for this study. The interview process starts with the selection of the type of interview to be used. A semi-structured interview method was selected. The qualitative researcher can take on a variety of roles from complete outsider to fully emerged insider. The data collection strategies can be adapted after the site selection or entry into the field. Qualitative researchers emphasise the collection of data by a skilled, prepared person rather than an instrument. The researcher used both inductive and deductive processes to analyse the data. The analysis of qualitative data is an ongoing process that starts once the first data is available. The researcher used codes, code groups and smart codes to organise, manage and evaluate data.

The strengths of qualitative research include very rich data are collected without the limitations of a responder that answers predefined questions, which can lead to the creation of new theories, the combination of qualitative and quantitative research methods can give the researcher a more complete picture and it is adaptable and can be altered in real time. Weaknesses of qualitative research include that the researcher must adhere to vigorous methodology to ensure good quality research; qualitative research alone is often insufficient to make population-level summaries, and conducting qualitative research can be very time-consuming. The findings of the data analyses are discussed in Chapter 6.

CHAPTER 6
PHASE II FINDINGS FROM THE QUALITATIVE CASE STUDY

Figure 6.1: Research design and methodology: A Qualitative case study

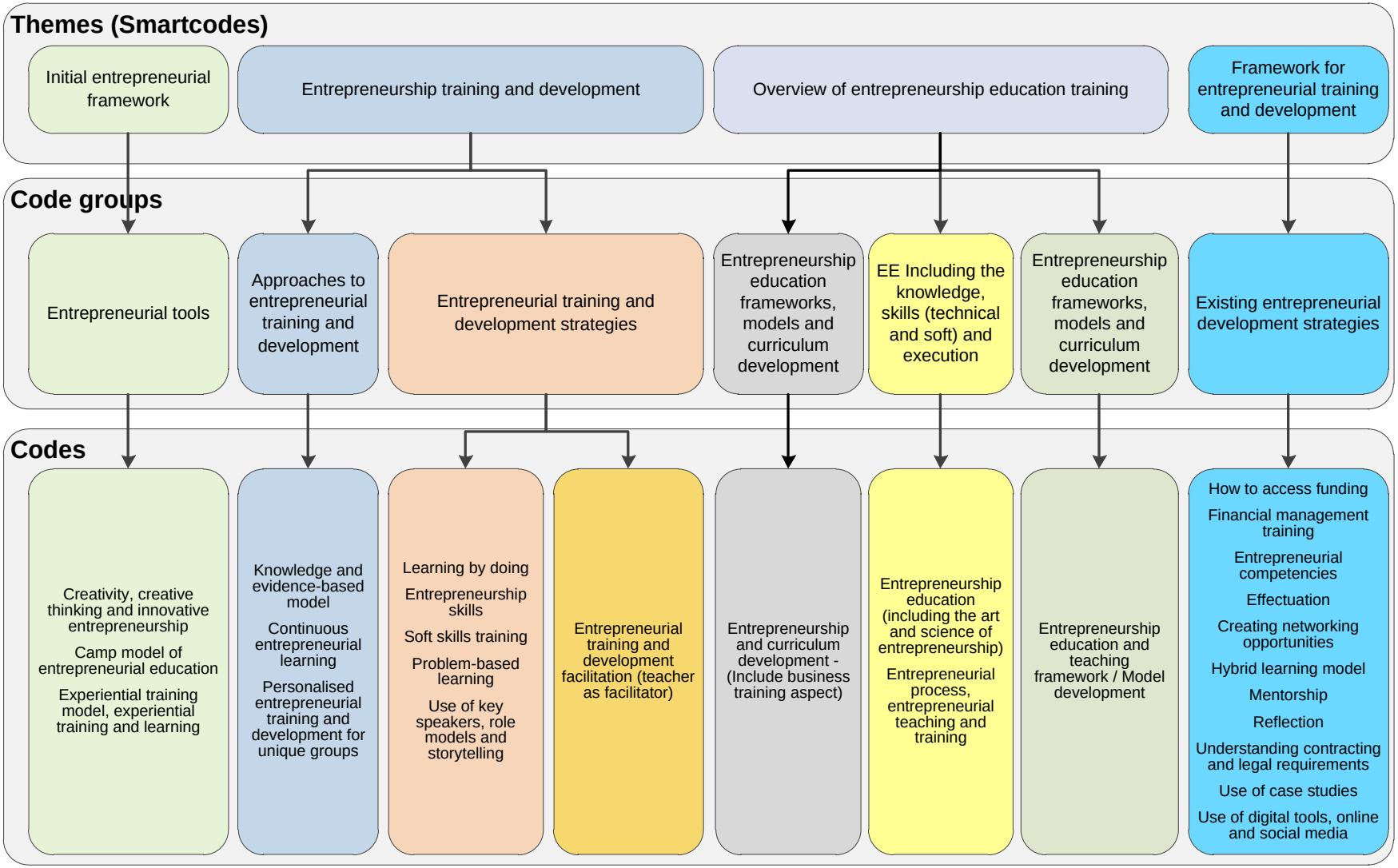


Source: Own compilation

6.1 INTRODUCTION

This study aimed to develop a framework to enhance EE at the bhive EDC of the NWU by obtaining feedback from EWP participants and conducting an SLR (Figure 6.1). Chapter 6 interpret and report on the findings of the semi-structured open-ended interviews conducted with the participants of the EWP. The researcher used the same codes identified for the SLR. The codes are grouped into eight code groups and five smart code groups (Figure 6.2). This chapter discusses the findings of the interviews on the (6.2) existing models for sustainable EE in underdeveloped and developed countries. The key themes identified in this chapter include: (6.3) entrepreneurial training and development, (6.4) an overview of entrepreneurship training and development and (6.5) a framework for entrepreneurial training and development.

Figure 6.2: Findings from Phase II case study



6.2 MODEL FOR TRAINING AND DEVELOPMENT

The researcher used the same codes, code groups and smart codes to code the SLR and the interviews. The new codes not identified in the SLR were added to the codebook. The findings of the SLR identified a number of models that exist to facilitate EE. Some of these models were also mentioned by the participants in the interviews.

6.2.1 Camp Model of entrepreneurship education

The Camp Model for EE proposes that students are taken from their normal learning environment to a space where they can work in cross-disciplinary teams to solve entrepreneurial challenges over a fixed period (Li, 2010:1-2). Before the Covid-19 pandemic forced the EWP to move online, all potential participants were invited to participate in a physical idea generation/enhancement boot camp, selection day. The selection day programme included idea generation training and pitch training. The potential participants had to work in teams. Finally, the potential participants had to present their business ideas to a panel of judges. The panel of judges selected the successful participants. The following positive aspects of the Camp Model included in the EWP were highlighted in the interviews:

> *I enjoyed the "boot camp" type approach to the selection day where the applicants had to work in groups and do individual presentations.* (Interviewee 2)

Furthermore, the Camp Model for EE may also result in creativity and creative thinking, which are explored in the next section.

6.2.2 Creativity and creative thinking

Creativity and creative thinking are considered core skills for entrepreneurs (Lourenço & Jayawarna, 2011:225). The interviewees stated that the EWP training assisted them to be more creative and think outside the box. The following positive aspects of the creativity training included in the EWP were highlighted in the interviews:

> *The EWP taught me to think outside the box and to be creative. The training received gave me the insight to change the focus of my marketing plan.* (Interviewee 1) *The training I received on the EWP showed me that I must think big, think sustainable and growing a business. I was able to identify and come up with new business ideas.* (Interviewee 2) *The programme opened my mind to realise things must change, and I must be creative. The EWP motivated me to explore my industry.* (Interviewee 4)

The interviewees indicated the following aspects of creativity training had the biggest impact on their business or themselves:

> *When conducting my market research, I realised that I had to update my business website to be on the same standard as the websites of the market leaders in my industry. I also realised that I had to change my web designer if I wanted to achieve this. The updated website resulted in positive changes in my business. Because of the EWP, I feel that I now really understand my business, and I can explain my business model to my clients and staff.* (Interviewee 1)

The next section discusses experiential learning in EE.

6.2.3 Experiential learning

Students find experiential learning methods exciting and easy to engage with. This is particularly true for millennials. Practical topics like entrepreneurship require practical learning to help prepare students for their careers (Farber *et al.*, 2015:347). The following quotations confirm the relevance of experiential learning:

> *A positive aspect of the EWP was that the training included a wide variety of activities like teamwork and individual assignments, not just sitting in the classroom and listening to the lecturer. I specifically enjoyed the teamwork. The market research had the biggest impact on my business because it influenced my original business idea.* (Interviewee 4)

The following subsection will look at entrepreneurial training and development, starting with section 6.3.1, which discusses continuous entrepreneurial learning as part of entrepreneurial training.

6.3 ENTREPRENEURIAL TRAINING AND DEVELOPMENT

6.3.1 Continuous entrepreneurial learning

Continuous learning is the perpetual process of constantly growing knowledge to gain new skills and expertise (Osorio & Cordero, 2014:173; Wang & Chen, 2013:47-48). In addition, Osorio and Cordero (2014:173) argue that EE must shift focus from start-up entrepreneurs to an emphasis on existing entrepreneurs who need to grow their business. The interviews with the participants confirm Osorio and Cordero's (2014:173) stance. The following positive aspects of the continuous entrepreneurial learning included in the EWP were highlighted in the interviews:

> *The programme made me realise that I must continue to learn to distinguish my business from the competition. I am currently using Google as a continuous learning tool. It was good to meet like-minded women entrepreneurs that also wanted to learn and improve themselves.* (Interviewee 2)

Interviewees indicated that they feel that the following could be added to the EWP in terms of continuous entrepreneurial learning:

> *If a follow-up training course becomes available, I would want to attend to learn how to address the challenges of running a business.* (Interviewee 1) *It would be nice to have continued access to the training material in pdf format to refer to in the future; also, I would like to participate in a follow-up/next-level training programme. Ongoing training, guidance and coaching can assist me to grow my business. I prefer seeing, hearing and illustration rather than reading as a learning method. I would like to have access to all the training videos to refresh my learning.* (Interviewee 3) *My current training needs to become more technology-savvy, preferably by attending training, broken down into focussed chunks.* (Interviewee 4) *I am interested in attending a refresher type course that includes possible new tools and training material.* (Interviewee 6) *I would attend a follow-up programme to continue learning.* (Interviewee 8).

Continuous training will aid in developing entrepreneurs for the dynamic business world. Also of importance is soft skills training, discussed in Paragraph 6.3.2.

6.3.2 Soft skills training

The inclusion of soft skill training is an important supplementary factor when training aspiring entrepreneurs (Nugraheni *et al.*, 2019:195). Li (2010:20) argues that without the following soft skills, the creation of new business will not be possible: (1) leadership, (2) creativity, (3) pro-activeness, (4) propensity to take a risk and (5) wakefulness. Zheng *et al.* (2009:30) conclude that problem-solving, communication skills and achievement motivation skills are required soft skills for aspiring entrepreneurs. The findings of the EWP participant interviews confirm the need for soft skills training for entrepreneurs. The following positive aspects of the soft skills training included in the EWP were highlighted in the interviews:

> *I can now answer questions about my business with confidence. The EWP made it easier for me to appoint the most suitable marketing agents for my business and gave me the confidence to manage them effectively. The business model generation and elevator pitch training I received enabled me to train my staff better. I experienced the EWP*

facilitator's insistence on good quality work in assignments as motivating. (Interviewee 1)*. Learning how to work in a team or group and how to communicate what you need or want for your business or what you want to portray about your business was valuable soft skills.* (Interviewee 9) *Some entrepreneurs are afraid of competition people should not fear competition. Entrepreneurs should embrace competition to embrace their business.* (Interviewee 4)

The interviewees indicated the following aspects had the biggest impact on their business or themselves:

Because of the EWP training, I trained my agents on the business model generation principles. Initially, I was too soft on my agents. The EWP empowered me to be strict with the agents and hold them accountable to reach their targets. I also have a more positive attitude toward my business. I realised that my focus was on the wrong customer segment, and I had to change the business website because of the market research. The change on the website resulted in much more hits. (Interviewee 1)

The interviewees indicated that they found the following aspects challenging:

The time management took some practice to get it right. I found it difficult to allocate time to studies, business and other segments of my life. (Interviewee 8)

Time management was an issue; it was difficult to find the time to work on my business. Participants should prepare for the face-to-face workshops. It was challenging to make the most of the time available. (Interviewee 9)

Interviewees indicated that they feel that the following could be added to the EWP:

The EWP should include basic life skills, spiritual intelligence, and soft skills training to help entrepreneurs start and run successful businesses and balance business with life. (Interviewee 3)*. I suggest adding the following to the EWP: Time management is an important skill for entrepreneurs. How to discover your purpose? How to create goals to answer the "why" question, and how to link my business to my purpose. How to achieve a work/life balance? How can I choose to have a positive attitude? Social networking skills.* (Interviewee 5) *Soft skills and presentation skills should be a bigger component of the EWP.* (Interviewee 8) *Time management skills and critical thinking skills should be added to the EWP* (Interviewee 9)

Entrepreneurs also need soft skills competencies to prepare them for business in the 4IR. Entrepreneurship skills are discussed in the next paragraph.

6.3.3 Entrepreneurship skills

Entrepreneurship skills refer to a diverse set of skills associated with successful entrepreneurship (Sai *et al.*, 2019:84). Entrepreneurship skills include creativity and innovation, critical thinking and identifying customer needs (Fayolle *et al.*, 2020:11; Lindberg *et al.*, 2017:776; Sai *et al.*, 2019:84). The interviewees indicated the following aspects had the biggest impact in terms of business skills on their business or themselves:

> *The brand development workshop had a positive effect on my business brand development.* (Interviewee 3) *The market research workshop positively influenced my business.* (Interviewee 4)

The following positive aspects of the entrepreneurial skills training included in the EWP were highlighted in the interviews:

> *I needed the relevant entrepreneurial skills presented in the EWP.* (Interviewee 3) *The market research (customer discovery) workshop and process gave me valuable feedback about my business idea.* (Interviewee 8)

The interviewee indicated that she found the following aspect of the entrepreneurial skills training challenging:

> *The market research was challenging. It was difficult to go out and speak to potential customers. However, this was also an opportunity to identify new customer needs.* (Interviewee 4)

The importance of the knowledge-based model in EE is outlined in Paragraph 6.3.4.

6.3.4 Knowledge-based model

When using the knowledge-based model when doing entrepreneurial training, the participants focus on reading, watching and listening to the study content to obtain enough information before moving to the next stage of learning (Gorsky, 2021). The interviewee indicated that she would like additional training:

> *I would like to attend training on how to practically do marketing and develop my website* (Interviewee 5)

Learning by doing as part of EE is discussed in Paragraph 6.3.5.

6.3.5 Learning by doing

Learning by doing or action learning address several of the limitations of traditional EE methods. Students learn through action and experiments (Bell & Bell, 2016:4-5; Putta, 2014:464).

The following positive aspects of learning by doing training included in the EWP were highlighted in the interviews:

> *I was happy with the content of the workshops, how the programme was presented, and the presenters' professionalism. The financial management presenter presented a difficult subject with humour and made it fun to learn. I liked the teamwork because we had to do assignments and present them to a panel of judges. The EWP training was quite detailed and interactive. This helped to take a wider view of the business to include the external environment.* (Interviewee 1) *The EWP took me out of my comfort zone. I had to do assignments and present them to the group.* (Interviewee 4) *I was able to apply acquired skills to grow my business.* (Interviewee 7)

The interviewees indicated the following aspects of learning by doing had the biggest impact on their business or themselves:

> *Because of the EWP, I know my own business so much better. The training made me realise that I need to change the Web developer I used for the business.* (Interviewee 1)*. The idea to concept development training allowed for practical learning.* (Interviewee 4) *The customer discovery (market research) gave many opportunities for practical learning.* (Interviewee 8)

Interviewees indicated that they feel that the following could be added to the EWP in terms of learning by doing:

> *I would have preferred some face-to-face sessions instead of online-only, especially for the expanded business model canvas workshop.* (Interviewee 1) *I would like to see more practical training added to the marketing training.* (Interviewee 9)

The interviewee indicated that she found the following aspect of learning by doing training challenging:

I found the customer discovery exercise difficult. (Interviewee 2)

Other comments by the interviewees about learning by doing:

I prefer learning by doing rather than reading (Interviewee 2)*. I learn best by doing practical work.* (Interviewee 3)

Practical learning experiences develop much needed skills in entrepreneurs. Learning by doing takes place in personalised education as part of EE, as demonstrated in Section 6.3.6.

6.3.6 Personalised education

Quach *et al.* (2020:117) argue that a tailor-made EE methodology is needed to enhance the effectiveness and efficiency of training programmes for specific types of entrepreneurs. The focus should shift to personalised EE rather than traditional "passive" education (Chenghao *et al.*, 2019:88). The interviewees commented on personalised education:

I prefer more focused training that is related to my business instead of more general training. (Interviewee 8)*.*

The interviewees indicated the following aspects of the personalised training in the EWP had the biggest impact on their business or themselves:

The fact that the facilitators assisted participants to make the knowledge applicable to their businesses helped a lot. The adjustment of training towards the participants' personal needs had a positive impact. (Interviewee 9)

Application of EE to be business specific develop entrepreneurs and businesses. In addition, problem-based learning aid development.

6.3.7 Problem-based learning

Problem-based learning actively involves learners in the learning process by expecting them to solve problems rather than receive knowledge passively (Li, 2010:2-3). The entrepreneurs learn by trial and error (Zheng *et al.*, 2009:3). The interviewees identified the following positive aspects of the problem-based learning in the EWP:

The EWP training forced me to think about things. I enjoyed the fact that the EWP was not just traditional classroom teaching. (Interviewee 4)

Learning by doing, personalised education and problem-based learning require the teacher to act as facilitator.

6.3.8 Teacher as facilitator

When the teacher acts as a facilitator, the focus moves away from traditional teaching to providing resources, monitoring progress and encouraging students to solve a problem (Quach *et al.*, 2020:117-119). Furthermore, when the teacher acts as a facilitator, students can apply the knowledge they gained (Quach *et al.*, 2020:117-119). Interviewees had the following positive comments about the facilitators of the EWP:

> *The facilitators made sure that I understood that while I still run my business from home, I must allocate a fair portion of the home expenses to the business. I was also able to make an appointment with the facilitator to get additional training on financial planning.* (Interviewee 1) *The facilitators did a great job with patience and offered good guidance.* (Interviewee 2)

The interviewees indicated that they found the following aspects challenging:

> *The budgets and financial projections were challenging.*

Providing resources and encouraging students to solve a problem develop entrepreneurial skills. The use of key speakers and role models will be examined in the next Paragraph.

6.3.9 Use of key speakers and role models

Various researchers confirm the importance of including key speakers and role models from the business community as part of fundamental entrepreneurial training activities (Li, 2010:2; Wahyuningsih *et al.*, 2018:452; Zeng & Honig, 2016:246; Zheng *et al.*, 2009:4). The interviewees had the following views on using key speakers and role models.

> *I think it would add a lot of value to new entrepreneurs if the EWP included an event where the participant could meet with local entrepreneurs, funders and other influential people to network.* (Interviewee 3) *I want to meet people that can make a difference in my business. Successful people can inspire the participants, even if the EWP use video clips from successful businesspeople to motivate participants. I think more live events like the Robin Banks event, using key speakers can be included in the EWP.* (Interviewee 4)

The overview of entrepreneurial training and development models subsection is appraised, starting with business training.

6.4 OVERVIEW OF ENTREPRENEURSHIP TRAINING AND DEVELOPMENT MODELS

Entrepreneurship training and development models consist of different components. Some of these components are discussed in the section below.

6.4.1 Business training

Business training focuses on entrepreneurs' competencies and skills to start and run a successful business (Quach *et al.*, 2020:2-4,10). These skills and competencies include (1) critical thinking skills, (2) problem-solving skills, (3) importance of teamwork, (4) business plan or BMC, (5) leadership skills (Henry & Treanor, 2012:2-3; Quach *et al.*, 2020:5; Rodríguez-López & Souto, 2019:2; Sherkat & Chenari, 2020:6,18). The teaching of competencies and skills alone is not enough. Aspiring entrepreneurs should also be exposed to the complicated stages of the entrepreneurial process via experiential learning methods (Bell & Bell, 2016:3).

The following positive aspects of the business training included in the EWP were highlighted in the interviews:

> *The EWP training taught me that when I experience challenges, I must have a positive attitude and find solutions to the challenges. The training made me realise that I must change the marketing focus of my business. I realised that my business is a more affordable option for my customers. The step-by-step approach of the business model canvas made it easier to understand. The elevator pitch training was a great help.* (Interviewee 1) *The practical application of newly acquired made it easier for me to learn.* (Interviewee 2) *I liked the fact that the EWP included a little bit of everything (Presentations, group work, assignments). I now look at the latest trends in my industry.* (Interviewee 4) *The customer discovery exercise was good; I now understand the market for my product.* (Interviewee 6) *The EWP taught me the fundamentals of doing business and gave me the tools I needed to present my business to potential customers.* (Interviewee 8) *I found the pre-launch steps valuable because I could now structure the process of starting my business.* (Interviewee 9)

The interviewees indicated that they found the following aspects of business training challenging:

> *The financial planning and budgets were difficult. I would also like to know how to sell shares in my business.* (Interviewee 1) *The customer discovery exercise was a challenge. It was difficult to identify a niche market for my business. The financial management and budgeting were difficult to understand and execute, especially for my type of business. It was difficult to create a realistic budget. I have challenges with money management. I found the product costing and pricing a challenge as well as identifying the external environment and its impact on my business.* (Interviewee 2) *When I joined the EWP I had no idea how to create a business plan or business model.* (Interviewee 8)

Interviewees indicated that they feel that the following could be added to the EWP in terms of business training:

> *I enjoyed the online format and the EWP process as well as the use of humour in the training. They could add some information on franchising your business to the training.* (Interviewee 1) *I would have liked to see more training on the day-to-day running of a business like mine.* (Interviewee 9)

The interviewees indicated the following aspects of business training had the biggest impact on their business or themselves:

> *I now want to create more businesses because of identifying new business opportunities because of the EWP training. I now think and dream bigger. The financial management training taught me how to handle money.* (Interviewee 2) *Being able to present the expanded business model canvas.* (Interviewee 3) *The idea to concept workshop. I also learned that I must have a long-term focus and plan to grow a sustainable business. I did not consider advertising or online advertising before attending the EWP. Developing a business pitch made a big difference to my business.* (Interviewee 4) *The marketing training was the turning point for me to start my business. It also showed me the importance of social media marketing.* (Interviewee 5) *The customer discovery workshop greatly influenced my business and understanding my customers and business model.* (Interviewee 6) *The EWP help me acquire the tools to start a business in easy-to-follow steps. I also acquired the tools to present my business idea to people.* (Interviewee 8) *The range of topics that form part of the EWP and the depth in which the topics were addressed* (Interviewee 9)

Paragraph 6.4.2 discusses the importance of the entrepreneurial process.

6.4.2 Entrepreneurial process

The entrepreneurial process consists of steps in planning, launching, running and growing a new business (Duke Fuqua School of Business, 2021). The process includes components of both the art and the science of entrepreneurship (Zheng *et al.*, 2009:1). The entrepreneurial process follows consecutive steps. There is no consensus on exactly what the entrepreneurial process is or how many steps it consists of (Barraza, 2021; Bell, 2020:3; Lourenço & Jayawarna, 2011:238; Sutevski, 2021). Proponents of a four, five, six and seven-step process were identified in the literature study. However, the steps suggested have numerous similarities. The authors identified in the literature study do agree that the entrepreneurial process must be broken down into different steps to promote effective learning (Lourenço & Jayawarna, 2011:238). The seven-step process has the following steps: (1) research, (2) analyse, (3) conclude, (4) plan, (5) apply, (6) measure and (7) improve (Sutevski, 2021). The following positive aspects of the business process training included in the EWP were highlighted in the interviews:

> *The training highlighted the importance of understanding my business model. I am happy with how the EWP was presented (Online). It was professional with good content. The facilitators were able to explain complex concepts in an easy-to-understand way. The facilitators were strict and expected good quality work. I was very happy to be part of the EWP.* (Interviewee 1) *The EWP promote creativity and forces participants to think big. The expanded business model workshop opened my eyes to the impact of the external environment on my business. I realised that I must continue to learn to stand out above my competition.* (Interviewee 2) *The EWP training gave me a better understanding of the business process.* (Interviewee 8) *The EWP helped me to understand the pre-launch steps required to start my business.* (Interviewee 9)

The interviewees indicated that they found the following aspects of the entrepreneurial process challenging:

> *I had difficulty understanding and identifying all my business expenses. The whole three-year financial planning and budgeting process was difficult for me. I had to work to understand and apply the concepts.* (Interviewee 1) *The EWP challenged me to think big to build a sustainable, growing business.* (Interviewee 2)

Interviewees indicated that they feel that the following could be added to the EWP in terms of entrepreneurial process training:

> *How to franchise your business could have been included in the training as well as how to sell a share in your business.* (Interviewee 2). *I would prefer that the EWP delve deeper into the entrepreneurial process to include topics like how to select the right suppliers like couriers.* (Interviewee 9)

The interviewees indicated the following aspects of entrepreneurial process training had the biggest impact on their business or themselves:

> *I used the business model training I received to create more detailed and positive training for agents. I was now able to appoint agents with the right skill set for my business. The customer discovery (market research) had a great impact on my business. I realised that I have been focussing on the wrong customer segment.* (Interviewee 1) *The easy-to-follow steps assisted me to develop the business model for my business.* (Interviewee 8)

Entrepreneurial teaching is expanded in Paragraph 6.4.3.

6.4.3 Entrepreneurial teaching

Entrepreneurial teaching and training consist of a structured programme designed to prepare aspiring entrepreneurs with the required skill and mindset to identify a business concept and start a new business (Ho *et al.*, 2018:1; Mohan & Revathi, 2012:5; Peterman & Kennedy, 2003:131,140-141). The development of financial, technical and managerial skills, conveying essential knowledge and enhancing entrepreneurial attitude are included in entrepreneurial training (Ho *et al.*, 2018:1; Mohan & Revathi, 2012:5; Peterman & Kennedy, 2003:131,140-141). The following positive aspects of the entrepreneurial teaching included in the EWP were emphasised in the interviews:

> *The EWP training assisted me in focusing on the right customer segment for my business* (Interviewee 1)

The interviewees indicated the following aspects of entrepreneurial teaching had the biggest impact on their business or themselves:

> *The entrepreneurial teaching guided me to refocus my social media marketing strategy and helped me to change the selection criteria I apply when selecting agents to work in my business. I now select agents with a more positive attitude.* (Interviewee 1)

The importance of EE is discussed next.

6.4.4 Entrepreneurship education

Entrepreneurship education can be defined as the transfer of knowledge and competencies about discovering, assessing and utilising opportunities to create businesses that sell goods or services (Zheng *et al.*, 2009:1-2). Entrepreneurship education includes both the science and art of entrepreneurship (Li, 2011:2-3; Zheng *et al.*, 2009:1-2). The interviewees indicated the following aspects of EE had the biggest impact on their business or themselves:

> *The shift in my marketing strategy due to the entrepreneurship education in the EWP resulted in a substantial increase in website clicks. I was also able to create additional jobs in my business and appointed the right people for these jobs because of the entrepreneurship education and my more positive attitude towards my business. I was happy with the way the EWP was presented online; the programme exceeded all my expectations.* (Interviewee 1)

The interviewees indicated that they found the following aspects of EE challenging:

> *It was difficult for me to identify a niche market for my business.* (Interviewee 2)

The significance of the EE framework is outlined in Paragraph 6.4.5.

6.4.5 Entrepreneurship education framework

An EE framework can be defined as a conceptual structure created to serve as a guide when creating EE training programmes (Lutkevich, 2020). The following positive aspects of the EE framework used in the EWP were emphasised in the interviews:

> *I did enjoy the use of breakaway rooms as part of the online training workshops; this made it possible to engage with the other participants. The use of group work, individual assignments, and presentations made learning easier and more enjoyable.* (Interviewee 1) *The EWP was structured logically and gave information. The EWP should be expanded to the whole of South Africa.* (Interviewee 2)

Interviewees indicated that they feel that the following could be added or changed in terms of the EE framework:

> *I would have preferred to have face-to-face workshops for the expanded business model training and a face-to-face event for the final presentations of the business model I would have preferred to have a face-to-face workshop for the financial management training*

due to the difficulty level. (Interviewee 2) *I prefer face-to-face training to online training. (Interviewee 4(attended a face-to-face EWP))*

The significance of entrepreneurship training will be demonstrated in Paragraph 6.4.6.

6.4.6 Entrepreneurship training

Entrepreneurship training is a structured programme developed to prepare aspiring entrepreneurs with the right skill set and mindset to identify a viable business concept and launch a new business (Ho *et al.*, 2018:1; Mohan & Revathi, 2012:5; Peterman & Kennedy, 2003:131,140-141). It is critical to include entrepreneurship theory in entrepreneurial training to provide the student with rules and frameworks to make better entrepreneurial decisions (Zeng & Honig, 2016:10). The interviewees indicated the following aspects of entrepreneurship training had the biggest impact on their business or themselves:

I realised that I had to improve my knowledge because my business is in a competitive market. (Interviewee 2)

The interviewees indicated that they found the following aspects of entrepreneurship training challenging:

The customer discovery (market research) was a challenge for me. (Interviewee 2) *The customer discovery was difficult.* (Interviewee 3)

Interviewees indicated that they feel that the following could be done differently in the EWP in terms of entrepreneurship training:

I think the difficult concept should rather be taught in face-to-face workshops, not online, depending on the audience. (Interviewee 3)

The next subsection evaluates the framework for entrepreneurial training and development, starting with the hybrid learning model.

6.5 FRAMEWORK FOR ENTREPRENEURIAL TRAINING AND DEVELOPMENT

6.5.1 Hybrid learning model

Blended learning is also referred to as mixed-mode or hybrid learning. The hybrid-training model employs the academic environment (traditional learning) as an underpinning for entrepreneurial training, following an experiential (non-traditional) format to facilitate practical

learning (Maritz & Foley, 2018:7; Osorio & Cordero, 2014:175,184). This is achieved by following an action learning approach that incorporates peer networking, experiential learning and knowledge-based training (Maritz & Foley, 2018:7; Osorio & Cordero, 2014:175,184). Interviewees indicated their preference in terms of a learning model:

> *I would prefer face-to-face learning where possible, but when it is not possible, online workshops in Zoom can work, provided they include group work and break out rooms to make the workshops interactive. The group sessions I attended added value to my learning. I would have liked to listen to all the participants' expanded business model presentations, as this would have been an additional learning opportunity. The online components can work if all the participants participate in the Zoom training and work in groups in the breakaway rooms.* (Interviewee 4) *I enjoyed the face-to-face training model but would prefer some online content that includes the use of short videos. I would prefer the financial feasibility workshops to be face-to-face and marketing, and some of the other workshops can be online.* (Interviewee 5) *I prefer a combination of face-to-face as well as online training. I was happy with the way the EWP was presented. I will use online videos and I prefer using online tools. (Interviewee 6 (attended an online EWP)) I will use online tools because it is easily accessible at a time that is convenient to me. I prefer online learning linked to interaction with the facilitators. I would also like to watch videos as part of the training.* (Interviewee 7) *I was happy with the online training format of the EWP and the use of online videos.* (Interviewee 8) *I would like face-to-face training plus an online platform for some of the workshops. To get maximum value from face-to-face training all the participants must prepare for the workshops before attending. I was happy with the face-to-face format of the EWP, but I can see the value of adding online components.* (Interviewee 9)

The interviewee indicated that she found the following aspects of the EWP learning model challenging:

> *It was a challenge to present the expanded business model canvas online instead of face-to-face. I would still prefer a mix of online and face-to-face for the EWP.*

Paragraph 6.5.2 discusses the importance of creating networking opportunities for EE.

6.5.2 Creating networking opportunities

Network building and the utilisation of network opportunities are important components in the training of aspiring entrepreneurs, especially female entrepreneurs (Botha *et al.*, 2007:165).

The following positive aspects of the network opportunities training included in the EWP was highlighted in the interviews:

> *The EWP allowed me to meet like-minded female entrepreneurs, and I was exposed to new business knowledge. I considered the selection day boot camp as a good networking opportunity* (Interviewee 2)*. The EWP training made me realise that businesses must work together to uplift the whole industry.* (Interviewee 4) *The EWP customer discovery training helped me to go and speak to potential customers to start building relationships.* (Interviewee 6)

Interviewees indicated that they feel that the following could be added to the EWP in terms of creating networking opportunities:

> *We were looking forward to attending business chamber workshops and networking events, but this could not realise due to the Covid pandemic.* (Interviewee 2) *Please add a networking event where EWP participants can engage with local entrepreneurs and funders.* (Interviewee 3)

The interviewees indicated the following aspects of creating networking opportunities had the biggest impact on their business or themselves:

> *The how to pitch your business training and the customer discovery training taught me how to interact with potential customers.* (Interviewee 6)

The significance of effectuation as part of the entrepreneurship training of aspiring entrepreneurs is discussed in the next section.

6.5.3 Effectuation

Effectuation is a thinking framework developed by Dr Saras Sarasvathy (Dargham, 2021; Sarasvathy & Venkataraman, 2011:247-267). The effectuation framework explains the process used by entrepreneurs to create new ventures (Dargham, 2021; Sarasvathy & Venkataraman, 2011:247-267). Effectuation is the act of making things happen. Entrepreneurs in the effectuation process use the following five principles (Dargham, 2021; Sarasvathy & Venkataraman, 2011:247-267):

1. **Start with your means**

   Entrepreneurs cannot wait for the perfect opportunity, and they need to take action based on what they have already available (Dargham, 2021).

2. **Set affordable losses.**

   Entrepreneurs must limit risk by only spending what they can afford to lose (Dargham, 2021).

3. **Leverage contingencies**

   Entrepreneurs must embrace surprises and bad news that result from unsure situations and use them to create opportunities (Dargham, 2021).

4. **Form partnerships**

   Entrepreneurs should collaborate with organisations and people willing to commit to their project (Dargham, 2021).

5. **Control the controllable**

   Entrepreneurs should focus on activities within their control because action will result in the desired outcomes (Dargham, 2021).

The following positive aspects of the effectuation training included in the EWP were emphasised in the interviews:

> *I learned that I must use what I have to start my business* (Interviewee 2)*.*

The interviewees indicated that they found the following aspects of effectuation training challenging:

> *I require funding to start my business.* (Interviewee 2) *The fact that I had to use what I have to grow my business* (Interviewee 6)*.*

The important entrepreneurial competencies required are demonstrated in the next section.

6.5.4 Entrepreneurial competencies

The important entrepreneurial competencies that must form part of any entrepreneurial training can be divided into the following categories: (1) business creation and management skills, (2)

soft skills and (3) entrepreneurial conviction (Abou- Warda, 2016:699-706; Bell, 2020:3; Darmawati *et al.*, 2020:122; Fayolle & Gailly, 2012:579; Koyana & Mason, 2017:739). Entrepreneurial competencies are discussed in detail in 4.4.3.2, and the relevant skills included in the three categories are shown in Table 4.9. The entrepreneurial competencies trained must include competencies that enable aspiring entrepreneurs to deal with contingencies and change (Quach *et al.*, 2020:120). The following positive aspects of the business competencies training included in the EWP were highlighted in the interviews:

> *I learned about the impact of external factors on my business as part of the expanded business model training. The market research training added a lot of value.* (Interviewee 2) *The facilitators taught the basic steps of building a business* (Interviewee 8)*.*

The interviewees indicated the following aspects of business competencies training had the biggest impact on their business or themselves:

> *The skills to do a proper customer discovery added value* (Interviewee 8)*.*

Paragraph 6.5.5 illustrates the importance of financial management training for aspiring entrepreneurs.

6.5.5 Financial management training

A large percentage of aspiring entrepreneurs find the financial management aspects of their business challenging. The financial management training of the EWP includes training to develop a three-year budget on an Excel template, pricing your products or services, how to determine the break-even point, managing cash flow and profit and loss statement. In the study by Arthur and Adom (2020:723) the beneficiaries found the financial literacy training helpful. Swarnalatha and Vasantha's (2014:9-12) study confirmed that women entrepreneurs specifically require in-depth financial training as part of their entrepreneurial training and that improved financial skills will encourage and assist more women to become entrepreneurs. In the study by Botha *et al.* (2007:164) the women identified cash flow and financial planning as part of the training required. Dyer *et al.* (2016:1) concluded that improving the entrepreneurial outcomes of "necessity entrepreneurs" requires business skills training and financial literacy training. The WEP identified financial training as an important component of EE (Botha *et al.*, 2007:165). The interviewees emphasised the following aspects in the interviewees:

> *The financial management training should be presented face-to-face; this will make it easier for the participants to understand. (Interviewee 2) I think the financial feasibility*

can be presented online. (Interviewee 4) *A follow-up workshop on financial feasibility would add value as I would like to know how to manage the business finances moving forward. How to manage the finances better, plan who to pay when, and show a profit in the business.* (Interviewee 7)

The interviewees indicated that they found the following aspects of financial management training challenging:

The financial feasibility was difficult, especially for my type of business. (Interviewee 2) *Assessing the financial feasibility and calculation of the break-even was a challenge.* (Interviewee 3) *The financial feasibility was difficult* (Interviewee 9)

The interviewees indicated the following aspects of financial management training had the biggest impact on their business or themselves:

The financial feasibility had the biggest impact on my business. (Interviewee 2) *The financial feasibility and the feasibility workshops had the biggest impact on my business.* (Interviewee 3) *The financial feasibility – how I can improve my business and the long-term focus required to run a business had the biggest impact on my business.* (Interviewee 4)*. The financial feasibility had the biggest impact on me* (Interviewee 5) *Analysing the financials of my business.* (Interviewee 6) *The financial feasibility training had a big impact on my business.* (Interviewee 7) *Being able to confirm the financial sustainability of my business.* (Interviewee 8)

The following positive aspects of the financial management training included in the EWP were emphasised in the interviews:

The financial feasibility positively affected my business. (Interviewee 5) *The financial feasibility training had a positive impact on me.* (Interviewee 7) *I now have a more realistic understanding of what I need to earn from the business as well as a better understanding of the financial model and financials of the business.* (Interviewee 8)

Access to funding is part of the financial management skill that entrepreneurs must master, hence how to access funding is discussed next.

6.5.6 How to access funding

Several studies have confirmed that some of the common challenges that entrepreneurs face are limited access to start-up capital and a lack of assets (Herrington & Kew, 2018:27; Nambiar

et al., 2020:71-73; Van Vuuren & Groenewald, 2007:270,272,276-278). Interviewees indicated that they feel that the following could be added to the EWP in terms of access to funding training:

> *I want to learn how to access funding for my business.* (Interviewee 2) *I want to learn how to get access to funding and how to apply for funding.* (Interviewee 6) *I would like to know how to access funding, find funders or investors for my business.* (Interviewee 8)

The interviewees indicated that they found access to funding challenging:

> *It is difficult to get access to capital.* (Interviewee 2) *I have the challenge to get funding for expensive equipment required to implement the business model.* (Interviewee 8)

The aspects of mentorship needs of entrepreneurs are discussed in Paragraph 6.5.7.

6.5.7 Mentorship

A mentor is an experienced and trusted adviser. Mentors assist aspiring entrepreneurs by acting as a soundboard for the entrepreneurs and by sharing their experiences with the entrepreneur (Bell & Bell, 2016:6; Watson & McGowan, 2019:34-37). Mentoring can take on different formats like: (1) peer mentoring, (2) mentoring in the same field and (3) mentoring from a specific subject expert (Bell & Bell, 2016:7-14; Zheng *et al.*, 2009:3). The following positive aspects of mentoring included in the EWP were emphasised in the interviews:

> *Receiving positive feedback from the facilitators/mentors made me positive about the potential of my business. I was happy with the online structure of the EWP.* (Interviewee 1) *I received good quality feedback from the facilitators.* (Interviewee 4) *The facilitators were able to comment and respond to each participant's needs, they understood the different business ideas and gave detailed feedback (both positive and negative).* (Interviewee 4)

The interviewees indicated that they found the following aspects of mentorship challenging:

> *Understanding that some of the home expenses must be allocated to the business (pointed out by the facilitators). I even made an appointment with the facilitator to get additional training on financial planning that was difficult to understand.* (Interviewee 1)

The interviewees indicated the following aspects of mentorship had the biggest impact on their business or themselves:

> *The inputs from coaches and mentors were key.* (Interviewee 4) *The contact sessions and the motivation received from the facilitators had the biggest impact on me.* (Interviewee 5)

Interviewees indicated that they feel that the following could be added to the EWP in terms of mentoring:

> *I would have liked access to a dedicated mentor.* (Interviewee 4) *I would have liked more access to a mentor.* (Interviewee 8)

Reflection is an important component of EE and is expanded in Paragraph 6.5.8.

6.5.8 Reflection

The reflection process is an important component of the entrepreneurial training process that assists students in applying the knowledge they learned (Bell, 2020:3; Zheng *et al.*, 2009:3-4). The interviewee indicated the following aspects of the EWP had the biggest impact on their business or themselves:

> *I was able to learn from my mistakes and the mistakes of the other participants. I was able to use the feedback received from the facilitators to reflect on my business model.* (Interviewee 4)

The ability to understand the contracting process and the legal requirements thereof were identified as an important skill for entrepreneurs.

6.5.9 Understanding contracting and legal requirements

Wang and Chen (2013:48) propose that universities must implement a specialised EE curriculum. This curriculum must include solid professional skills and knowledge, including legal (contracting) and financial knowledge. Interviewees indicated that they would like that the following could be added to the EWP in terms of business training:

> *A better understanding of the laws applicable to contracts, and how to approach business contracts.* (Interviewee 3) *I would like to have a better understanding of how to approach contracts.* (Interviewee 9)

The significance for entrepreneurs to understand the business model is emphasised in the following section.

6.5.10 Use of business model

Osterwalder and Pigneur (2010:15) propose that entrepreneurs should use the BMC rather than a traditional business plan when creating a business because the BMC is a more creative framework that also helps with ideation. The BMC is defined as a framework (paper or computer-based) that supports the facilitation process of formulating, enhancing and expressing the business model strategies of the business (Lima & Baudier, 2017:160). The following positive aspects of the BMC training included in the EWP were highlighted in the interviews:

> *The business model canvas training and the creation of my company's business model positively impacted my business and me. I invested time and energy into my business model and received positive feedback from the facilitators.* (Interviewee 1) *The EWP training taught me how to develop and present the business model for my business.* (Interviewee 8)

Interviewees indicated that the following could be added to the EWP in terms of BMC training:

> *I think the Business Model Canvas training can be presented online.* (Interviewee 3)

The interviewees indicated the following aspects of BMC training had the biggest impact on their business or themselves:

> *The Business Model Canvas training added value to my business.* (Interviewee 2) *The expanded Business Model Canvas had the biggest impact on my business; it gave me direction to develop my business. The use of the animated videos for the expanded business model canvas training made it easy to understand.* (Interviewee 3) *Learning how to use the business had a positive impact on my business.* (Interviewee 6) *Knowing how to create a business model for my business had a positive impact on my business.* (Interviewee 7)

The use of case studies as part of EE programmes is explained in Paragraph 6.5.11.

6.5.11 Use of case studies

The use of case studies in EE programmes is considered a beneficial experiential learning instrument that has a positive contribution to the students' understanding of the entrepreneurial environment. Case studies support the students to specifically answer the "know-when" type questions, for example, How would I know if it is the right time to move forward with my

business? (Awaysheh & Bonfiglio, 2017:333; Fayolle & Gailly, 2012:579). The use of case studies helps students understand the training content and serve as motivation (Wahyuningsih *et al.*, 2018:452). The interviewee indicated the following aspects of the use of case studies had the biggest impact on their business or themselves:

> *The facilitators used successful big businesses as case studies to see what they are doing right and what they are doing wrong so that we can learn from these practical examples and apply the knowledge in my own business.* (Interviewee 4)

Social media, online tools and the use of digital tools are discussed in Paragraph 6.5.12.

6.5.12 Use of digital, online and social media

The use of digital and online tools and social media to promote your business is a growing trend (Seo & Park, 2018:36). Social media marketing is a more convenient marketing method that assists the company to build a relationship and interactions with its customers (Li *et al.*, 2021:52-53; Sajid, 2016:2; Seo & Park, 2018:36-37). The use of online, digital and social media can be affordable tools to market and run a business. Social media's advantages to companies include: (1) decrease in marketing cost due to a decrease in staff time and (2) increased probability of revenue creation. Social media allows companies to: (1) utilise the knowledge of their customers, (2) share information and skills, (3) make it possibly for clients to assist other clients and (4) engage leads generated via client evangelism (Li *et al.*, 2021:52-53; Sajid, 2016:2; Seo & Park, 2018:36-37). Interviewees indicated that they feel that the following could be added to the EWP in terms of the use of digital, online and social media:

> *When online videos are used as part of the entrepreneurial training each video must not be more than 4 minutes long.* (Interviewee 3) *I want to create more activity on social media for my business and I would like to be trained on how to do this myself, instead of paying someone else to do it on my behalf. I would also like to receive some training on the use of Instagram. I would like to learn how to use online surveys as part of customer discovery.* (Interviewee 4) *I would like to be trained in website development and maintenance and on the use of social media to market my business. I want to learn how to create my online workshops.* (Interviewee 5) *I would like to use online tools to develop my business as online tools are part of business's future.* (Interviewee 7) *I suggest that training on website creation social media marketing and digital must be included in the EWP.* (Interviewee 8) *The EWP must include digital marketing skills. This could include basic computer use training and the use of Microsoft Office products. The marketing training should be expanded to include digital marketing training.* (Interviewee 8)

6.6 CREATING AN INITIAL ENTREPRENEURSHIP EDUCATION FRAMEWORK FROM THE FINDINGS OF THE INTERVIEWS

The findings of the Phase II interviews reported in Chapter 6 are summarised as an initial EE framework from the findings of the interviews in Table 6.1. The key aspects identified in the case study include the following approaches to entrepreneurial training and development (i) continuous entrepreneurial training that includes learning by doing, knowledge, evidence and problem-based learning and personalised education environment, (ii) the training must utilize the teacher as facilitator and expose participants to key speakers and role models. The participants indicated a preference for the following entrepreneurial training and development models: (iii) business training that include the entrepreneurial process and both face-to-face and online components. The participants confirmed the need for the following components to be included in an EE framework: (iv) Creativity, creative thinking and innovation and (v) the use of a hybrid model that include experiential training.

Table 6.1: Entrepreneurial education framework from the findings of the interviews

Creating an initial entrepreneurship education framework from the findings of the interviews		
Description	**Important components to include in entrepreneurship education**	**Findings**
Entrepreneurial training and development		
Approaches to entrepreneurship training and development:	**Continuous entrepreneurial training and development**	Realise the importance of continuous learning. Create opportunities to attend follow-up training. Create opportunities to attend a refresher course. Continuous access to the training material. Include visual (videos) /vocal training. More technology training Access to ongoing training/guidance/coaching.
	Soft skills training	Include basic life skills, spiritual intelligence and soft skills training. Include time management training. Include training on how to create goals. Include training on how to have a positive attitude.
	Knowledge and evidence-based training and development	Give access to practical marketing and website development training.
	Entrepreneurship skills	Include market research training. Teach how to talk to potential customers. Include brand development training.
	Problem-based learning	The training must force participants to think and solve problems.

Creating an initial entrepreneurship education framework from the findings of the interviews		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Learning by doing	Include customer discovery training. Include some face-to-face training, especially for the expanded business model and other difficult modules. Increase the time and effort on the financial feasibility training as it is difficult. Focus more on practical marketing training. Include assignments and presentations as opportunities to apply knowledge.
	Personalised education	Make the knowledge applicable to the participant' specific business. Focus the training on the participant's specific business.
	Teacher as facilitator	Facilitators must display patience with participants and offer good advice
	Use of key speakers and role models	Participants like to meet with local entrepreneurs and other influential people. Participants to meet with people that can make a difference in their business. Successful people can inspire participants. Use videos from successful business people to teach and inspire. Invite participants to live entrepreneurial events.

Creating an initial entrepreneurship education framework from the findings of the interviews		
Description	**Important components to include in entrepreneurship education**	**Findings**
Overview of entrepreneurial training and development models	**Business training**	A positive attitude is required to find solutions to problems. Entrepreneurs must be able to change to grow their businesses. Use a step-by-step approach to the business model canvas training to make it easier to understand. The practical application of newly acquired knowledge makes it easier to learn. Participants find the financial planning and budgeting difficult to understand and execute. Include how to sell shares in the business as part of the training. Participant finds the customer discovery training challenging. Include idea generation training. It is important to include presentation skills training. Include idea to concept training. Participants should learn to have a long-term focus to grow a sustainable business. Supply more information on the process to franchise a business. Include training on online and social media marketing. The training must be well-rounded and include elements like presentations, group work and individual assignments. Include product costing and product pricing training in the financial training. Teach the entrepreneurial process and the pre-launch steps required to start a business.
	Entrepreneurial process	Guide participants to understand the business model for their business. Promote creativity. The expanded business model and understanding the external environment. Guide participants to understand the business process. Include financial planning and the budgeting process. Include the customer discovery process. Teach participants how to select the right suppliers for the business.

Creating an initial entrepreneurship education framework from the findings of the interviews		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Entrepreneurial teaching	Guide participants to focus on the right customer segment. Assist participants in reforming their social media marketing strategy. Teach participants to develop selection criteria when appointing staff or agents for their business.
	Entrepreneurship education	Include training on how to identify a niche market. Include training on the development of a marketing strategy.
	Entrepreneurship education strategy	Structure training logically. Include some face-to-face training, especially for financial management and business model canvas. The use of breakaway rooms as part of online training work well.
	Entrepreneurship training	Customer discovery training is challenging. Guide participants to understand the importance of improving their knowledge. Difficult subjects should be taught face-to-face.
Initial framework for entrepreneurial training and development	**Camp Model of entrepreneurial training**	Participants enjoy a “boot camp” type approach to the selection day where the applicants interact with each other and where they present their business idea to a panel.
	Creativity, creative thinking and innovative entrepreneurship	Facilitators should guide participants to think outside the box. Facilitators should guide participants to critically evaluate their business model and be open adjust the BMC to achieve results. Teach participants to think big/think sustainable growing business. Facilitators must assist participants in understanding their own business and exploring their industry.

Creating an initial entrepreneurship education framework from the findings of the interviews		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Experiential training model, experiential training and learning	The variety of activities included in the training added value (Teamwork, individual assignments and learning by doing).
Framework for entrepreneurial training and development	**Hybrid learning model**	Use a mix of online and face-to-face training. Present the financial feasibility in face-to-face training and marketing online. Use a mixture of online and face-to-face training that includes group work. Group sessions added value to the learning process. Use online training videos and tools.
	Creating networking opportunities	Use training and other events as networking opportunities to allow participants to meet like-minded entrepreneurs. Use the customer discovery training and how to pitch your business training to teach participants how to interact with potential customers. Where possible incorporate business chamber workshops and networking events in the training. Use the selection day boot camp as a networking opportunity. Guide participants to understand that businesses must work together.
	Effectuation	Guide participants to learn that they must start/grow their business with what they have. In general, participants require funding to start their business.
	Entrepreneurial competencies	Teach participants to learn and understand the impact of external factors on their business as part of the expanded business model canvas training. The facilitator must impart the skills to do a proper customer discovery to the participant. Market research training added value. Facilitators taught us the basic steps in building a business.

Creating an initial entrepreneurship education framework from the findings of the interviews		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Financial management training	Financial feasibility training can have a positive impact on the participant's business. Financial feasibility training is difficult for the majority of participants to understand. Financial feasibility has a big impact on participant's business. Due to the difficulty levels, the financial feasibility should be face-to-face training. Participants find the assessing of financial feasibility and calculation of break-even challenging. Financial feasibility could be presented online depending on the skills level of the participants. Guide participants to understand what they need to earn from the business as well as a better understanding of the financial model and framework of their business. Consider follow-up workshop on financial feasibility. Teach participants to manage their financials better. Teach participants how to analyse their business financials.
	How to access funding	The majority of start-up businesses find it difficult to access funding. Facilitators should guide participants on how to obtain/ access funding.
	Mentorship	Feedback from facilitators, positive or negative, have a positive impact on participants. Inputs from coaches and facilitators are key for participants. Where possible, give participants access to a dedicated mentor. Facilitators should assist participants in understanding difficult concepts. Good quality feedback from facilitators assist participants in creating and growing their business.
	Reflection as part of entrepreneurial training and development	Facilitators should guide participants to reflect on the training and interaction with other participants to enable them to learn from their own mistakes and the mistakes of others. Encourage the participants to use the feedback from facilitators to reflect on their business model.

Creating an initial entrepreneurship education framework from the findings of the interviews		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Understanding contracting and legal	Give participants a better understanding of the laws applicable to contracts and how to approach business contracts.
	Use of business model	Teaching participants the use of the business model canvas training can positively impact the participant's business. Guide participants to invest time and energy into their business model and give quality feedback. Use videos as part of the expanded business model training to make it easier to understand.
	Use of case studies for entrepreneurial training and development	Facilitators can use successful big businesses as case studies so that participants can learn from what they are doing right and wrong.
	Use of digital, online and social media	Some participants prefer short (shorter than 4 minutes) online videos to learn. Include training on how to run the social media accounts of the business, instead of paying someone. Include some website development training. Train participants how to use online tools to develop and grow their business. Include digital marketing skills in the training.

Source: Own compilation

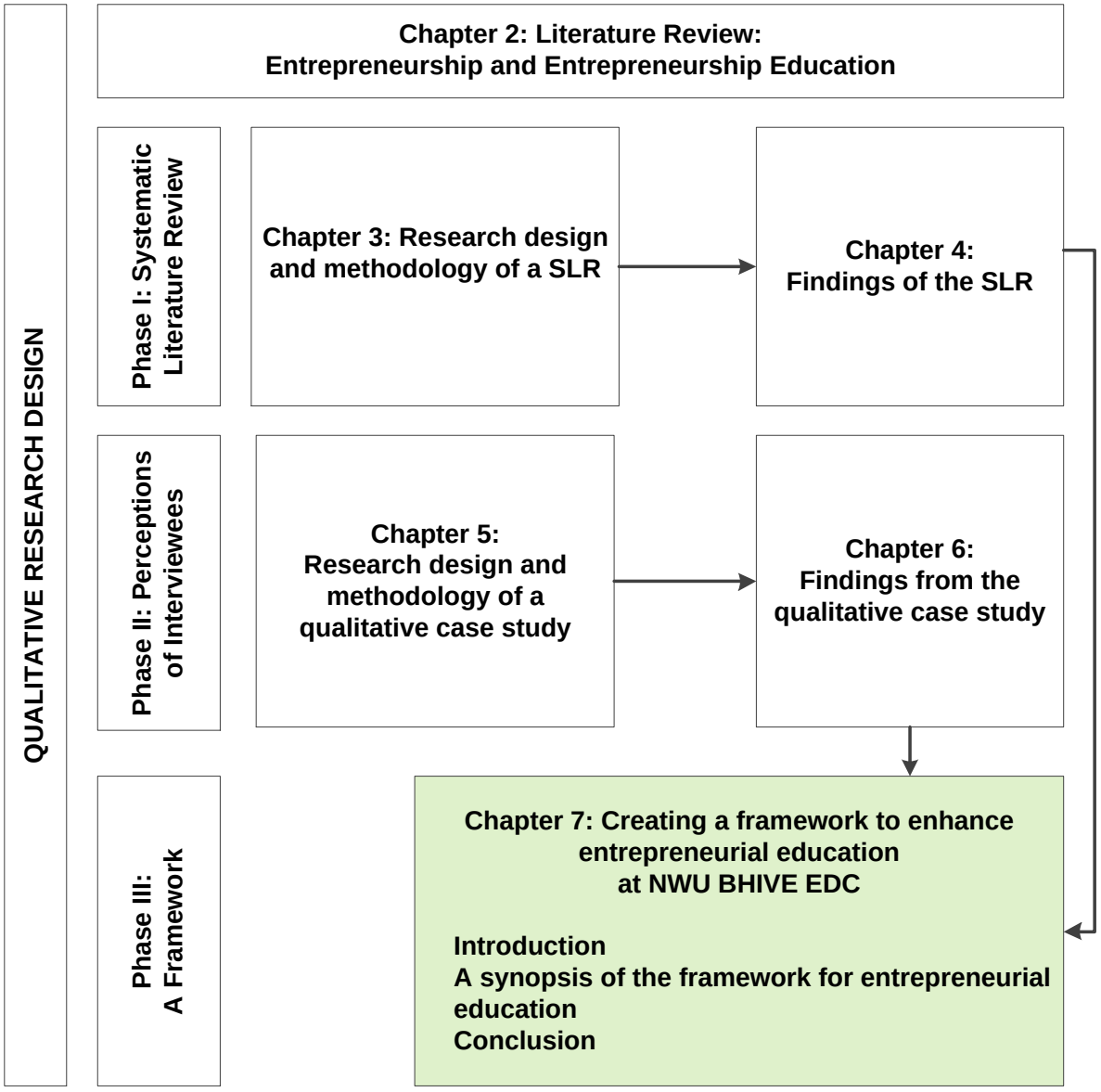
6.7 CONCLUSION

The researcher used the same codes, code groups and smart codes used in the SLR to code and analyse the interview data to ensure easy comparability of the data. New codes, not identified in the SLR , were added to the codebook. The interviewees mentioned some of the entrepreneurship education models identified in the SLR. The models mentioned include the Camp Model of entrepreneurship education that relates to boot Camp Model used for selection day, creativity and creative thinking, and the interviewees' preference for experiential learning. The findings indicate that new and aspiring entrepreneurs command more than the traditional classroom-based entrepreneurial training can offer. The new generation of entrepreneurs demands custom-made training rather than the traditional one-size-fits-all approach. The participants indicated that creativity training and being taught how to think outside the box positively impacted their businesses. The variety of activities on the EWP that included teamwork and individual assignments made it easier to learn.

In terms of entrepreneurial training and development, the interviewees indicated that they realise the importance of continuous entrepreneurial learning as well as the inclusion of soft skills and entrepreneurial skills as part of entrepreneurship education programmes. The importance of soft skills like basic life skills, spiritual intelligence, time management skills, creating goals and having a positive attitude were emphasised. The participants identified the following components of the entrepreneurial training and development models as important components of entrepreneurial training — business training, entrepreneurial process training, entrepreneurial teaching, and training and the entrepreneurship education framework. The participants found the brand development training valuable. Modules on entrepreneurial competencies, financial management training, access to funding, understanding contracting and legal, use of the business model and digital, online and social media should form part of training initiatives. Trainers must use case studies as part of the training. Participants preferred a knowledge-based model with a personalised education approach that focusses on learning by doing. The participants prefer a teacher as facilitator approach and want to listen to key speakers and have access to role models. Chapter 7 discusses the framework for EE, limitations of the study and future research.

CHAPTER 7
PHASE III CREATING A FRAMEWORK TO ENHANCE ENTREPRENEURIAL EDUCATION AT THE BHIVE ENTERPRISE DEVELOPMENT CENTRE OF THE NORTH-WEST UNIVERSITY,

Figure 7.1: Research design and methodology: A Qualitative case study



Source: Own compilation

7.1 INTRODUCTION

Chapter 7 combines the findings from the SLR (Table 4.11) and the findings of the case study (Table 6.1) to create a final framework for EE (Table 7.1). The chapter give a synopsis of the important components of the final framework for EE.

7.2 A SYNOPSIS OF THE FRAMEWORK FOR ENTREPRENEURIAL EDUCATION

The key findings of the framework include the following. The first step in the process of designing an EE intervention is to establish the reason for the intervention. The second step is to establish the target audience for the EE intervention and their specific needs. The one-size-fits-all approach to EE is not an effective method to train entrepreneurs. The SLR and case study findings confirmed that entrepreneurial training could not be a single event; entrepreneurs require continuous entrepreneurial training, custom-made for where the entrepreneur is in the entrepreneurial journey.

EE interventions should include both soft skills and entrepreneurial skills training. Important soft skills for entrepreneurs include leadership, creativity, teamwork, problem-solving skills, and resilience. Entrepreneurial skills training includes skills like innovation, critical thinking, time management, decision-making methods. Entrepreneurial competencies like understanding the impact of the external environment on the business, how to conduct customer discovery and effective market research are key to business success. Most start-up entrepreneurs require in-depth financial management training. The case study findings confirmed the need for training on the use of digital, online and social media tools to market start-up businesses. New entrepreneurs need training on the entrepreneurial process to launch and run successful businesses. The entrepreneurial process consists of the following steps: the planning, launching and developing a new business.

Entrepreneurs prefer knowledge and evidence-based training that include problem-based and learning by doing type training, in a hybrid-training model that include both online and face-to-face components, not traditional classroom-based training. They prefer the teacher to act as facilitator. The SLR and the case study confirm that the use of key speakers, successful entrepreneurs as role models, case studies, creating networking opportunities and the use of mentors can be used effectively in EE initiatives. Facilitators need to test the effectiveness of knowledge transfer for their specific EE intervention to be able to improve the EE model continuously.

The final framework for EE in Table 7.1 is a combination of the findings of the SLR and the findings of the case study interviews. The framework reflects the most important EE components, according to the literature reviewed, that should be included in EE activities, as well as the important components as identified by the participants of the EWP who were interviewed as part of the case study.

Table 7.1: Entrepreneurship education framework

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
The reason for the training should be clearly described.		
Who is the target audience? **What are their needs? These groups can include: Special groups like female entrepreneurs, youth, accountants, and students engineers.**		
Custom-designed training based on target audience needs.	**Identify the specific needs of the target audience.**	
<u>Values:</u> Flexibility, locus of control (participants) and participant responsibility **Entrepreneurial training and development**		
Approaches to entrepreneurship training and development:	**Continuous entrepreneurial training and development**	Guide participants to understand the importance of continuous learning.
		Realise the importance of continuous learning Create opportunities to attend follow-up training Create opportunities to attend a refresher course Continuous access to the training material Include visual (videos)/vocal training More technology training Access to ongoing training/guidance/coaching

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Soft skills training	Include basic life skills, spiritual intelligence and soft skills training Include time management training Include training on how to create goals Include training on how to have a positive attitude
		<u>Important soft skills to include in entrepreneurial training:</u> Leadership Creativity Propensity to take risk Wakefulness Teamwork Communication skills Problem-solving skills Self-confidence Achievement motivating skills Internal locus of control Resilience Self-efficacy Planning skills Budgeting skills

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Knowledge and evidence-based training and development	Give access to practical marketing and website development training
		Know-what (Part of experience) Organisation Management Finance Marketing Business Business Law
		Know-who (Part of experience) Networks or people Venture capitalist company
		Know-how (Skills) Production and operation Equipment and procedure management Space management Supply chain management Recognition and evaluation of a commercial opportunity Risk management Relational network Problem-solving

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Entrepreneurship skills	Include market research training. Teach how to talk to potential customers. Include brand development training.
		<u>Important entrepreneurial skills:</u> Creativity and innovation Critical thinking Decision-making methods Entrepreneurship finance and law Idea generation and concept development Initiative learning methods Administrative management and technological skills Market knowledge Market research skills New opportunity creation Organisational skills Project engagement Problem-solving Marketing and sales Self-confidence Self-directed learning skills Self-motivation Taking calculated risks Teamwork Tenacity Time management Financial management Use of BMC Use of business plan

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Problem-based learning	The training must force participants to think and solve problems Active learners learn by solving problems
	Learning by doing	Include customer discovery training. Include some face-to-face training, especially for the expanded business model and other difficult modules. Increase the time and effort on the financial feasibility training as it is difficult. Focus more on practical marketing training. Include assignments and presentations as opportunities to apply knowledge.
		Skills Active involvement Applying knowledge Conceptualisation Creating an actual business Creative thinking Develop independence
		Teaching tools/methods Action and experiments Action learning Business simulation Concrete experience Mentoring Use of Hackathons

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Personalised education	Make the knowledge applicable to the participants' specific businesses. Focus the training on the participants' specific businesses. New theoretical perspectives Sound evaluation process
	Teacher as facilitator	Facilitators must display patience with participants and offer good advice. It is not about what is taught (didactic knowledge) but how knowledge is applied (behavioural).
	Use of key speakers and role models	Participants like to meet with local entrepreneurs and other influential people. Participants to meet with people that can make a difference in their business. Successful people can inspire participants. Use videos from successful business people to teach and inspire. Invite participants to live entrepreneurial events.

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
Overview of entrepreneurial training and development models	**Business training**	A positive attitude is required to find solutions to problems. Entrepreneurs must be able to change in order to grow their business. Use a step-by-step approach to the BMC training to make it easier to understand. The practical application of newly acquired knowledge makes it easier to learn. Participants find the financial planning and budgeting difficult to understand and execute. Include how to sell shares in the business as part of the training. Participants find the customer discovery training challenging. Include idea generation training. It is important to include presentation skills training. Include idea to concept training. Participants should learn to have a long-term focus to grow a sustainable business. Supply more information on the process to franchise a business. Include training on online and social media marketing. The training must be well-rounded and include elements like presentations, group work and individual assignments. Include product costing and product pricing training in the financial training. Teach the entrepreneurial process and the pre-launch steps required to start a business.
	Design content that targets competencies and skills required by the target audience.	**<u>Specific Entrepreneurial Learning Methods:</u>** Problem-solving skills Critical thinking skills Decision-making skills Innovation methods Business model/Business plan Teamwork Leadership skills Engage – complicated stages of the entrepreneurial process

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Entrepreneurial process	Guide participants to understand the business model for their business. Promote creativity. The expanded business model and understanding the external environment. Guide participants to understand the business process. Include financial planning and the budgeting process. Include the customer discovery process. Teach participants how to select the right suppliers for the business.
	Entrepreneurial teaching	Guide participants to focus on the right customer segment. Assist participants to reform their social media marketing strategy. Teach participants to develop selection criteria when appointing staff or agents for their business.
	Entrepreneurship education	Include training on how to identify a niche market. Include training on the development of a marketing strategy.
	Entrepreneurship education strategy	Structure training logically. Include some face-to-face training, especially for financial management and BMC. The use of breakaway rooms as part of online training work well.
	Entrepreneurship training	Customer discovery training is challenging. Guide participants to understand the importance of improving their knowledge. Difficult subjects should be taught face-to-face.

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
Scope: Introduction for new entrepreneurs or advanced for existing entrepreneurs **Methods: Existing foundational entrepreneurial training and development**		
Initial framework for entrepreneurial training and development	**Camp Model of entrepreneurial training**	Participants enjoy a “boot camp” type approach to the selection day where the applicants interact with each other and where they present their business idea to a panel. Fixed period, away from the normal learning environment.
	LAB studio model of entrepreneurial training	Laboratory environment approach
	Creativity, creative thinking and innovative entrepreneurship	Facilitators should guide participants to think outside the box. Facilitators should guide participants to critically evaluate their business model and be open to adjusting the BMC to achieve results. Teach participants to think big/think sustainable growing business. Facilitators must assist participants to understand their own business and exploring their industry. Important to include creativity training.
	Experiential training model, experiential training and learning	The variety of activities included in the training added value (Teamwork, individual assignments and learning by doing). Learning while actively involved in the learning process.

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
Entrepreneurial training and development support		
	Business incubation support and entrepreneurial encouragement for entrepreneurial training and development	Use of a business competition Use of a pre-incubator Use of an incubator Mentoring & aftercare
Existing entrepreneurial training and development strategies		
	• Creating networking opportunities for entrepreneurial training and development • Entrepreneurial Competencies for entrepreneurial training and development • Mentorship for entrepreneurial training and development • Use of business model, Lean start-up or business plan for entrepreneurial training and development	Utilising networking opportunities is an important component of entrepreneurial education Include business creation and management skills in the training Soft Skills Entrepreneurial conviction

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
Framework for entrepreneurial training and development		
Framework for entrepreneurial training and development	**Hybrid learning model**	Use a mix of online and face-to-face training. Present the financial feasibility of face-to-face training and marketing online. Use a mixture of online and face-to-face training that include group work. Group sessions added value to the learning process. Use online training videos and tools.
	Creating networking opportunities	Use training and other events as networking opportunities to allow participants to meet like-minded entrepreneurs. Use the customer discovery training and how to pitch your business training to teach participants how to interact with potential customers. Where possible, incorporate business chamber workshops and networking events in training. Use the selection day boot camp as a networking opportunity. Guide participants to understand that businesses must work together.
	Effectuation	Guide participants to learn that they must start/grow their business with what they have. In general participants require funding to start their business.
	Entrepreneurial competencies	Teach participants to learn and understand the impact of external factors on their business as part of the expanded BMC training. The facilitator must impart the skills to do a proper customer discovery to the participant. Market research training added value. Facilitators taught us the basic steps in building a business. Include business creation and management skills in the training.

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Financial management training	Financial feasibility training can have a positive impact on the participants' businesses. Financial feasibility training is difficult for the majority of participants to understand. Financial feasibility has a big impact on participants' businesses. Due to the difficulty levels, the financial feasibility should be face-to-face training. Participants find the assessing of financial feasibility and calculation of break-even challenging. Financial feasibility could be presented online depending on the skills level of the participants. Guide participants to understand what they need to earn from the business as well as a better understanding of the financial model and framework of their business. Consider a follow-up workshop on financial feasibility. Teach participants to manage their financials better. Teach participants how to analyse their business financials.
	How to access funding	The majority of start-up businesses find it difficult to access funding. Facilitators should guide participants on how to obtain/access funding.
	Mentorship	Feedback from facilitators, positive or negative have a positive impact on participants. Inputs from coaches and facilitators are key for participants. Where possible, give participants access to a dedicated mentor. Facilitators should assist participants in understanding difficult concepts. Good quality feedback from facilitators assists participants in creating and growing their businesses.

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Reflection as part of entrepreneurial training and development	Facilitators should guide participants to reflect on the training and interaction with other participants to enable them to learn from their own mistakes and the mistakes of others. Encourage the participants to use the feedback from facilitators to reflect on their business model.
	Understanding contracting and legal	Give participants a better understanding of the laws applicable to contracts and how to approach business contracts.
	Use of business model	Teaching participants the use of the BMC training can positively impact the participants' business. Guide participants to invest time and energy into their business model and give quality feedback. Use videos as part of the expanded business model training to make it easier to understand.
	Use of business competition, business simulation and serious games for entrepreneurial training	Business plan competition/Use board games / electronic games / serious games as a learning tool.
	Use of case studies for entrepreneurial training and development	Facilitators can use successful big businesses as case studies so that participants can learn from what they are doing right and wrong.

Entrepreneurship education framework from the combined SLR and interview findings		
Description	**Important components to include in entrepreneurship education**	**Findings**
	Use of digital, online and social media	Some participants prefer short (shorter than 4 minutes) online videos to learn. Include training on how to run the social media accounts of the business instead of paying someone. Include some website development training. Train participants how to use online tools to develop and grow their business. Include digital marketing skills in the training.
Test Knowledge transfer	**Analysing existing entrepreneurial training and development model outcomes**	Evaluation of entrepreneurship education outcomes.

Source: Own compilation

7.3 CONCLUSION

The framework for EE confirms the importance of clearly defining the purpose of any EE activity before starting with the design process. There must be a clear understanding of the target audience of the EE intervention as well as their specific needs. Successful EE initiatives are custom-made to fit the target audience's needs, rather than having a one-size-fits-all approach. The entrepreneurship initiatives should focus on learning by doing approach rather than a traditional classroom approach. Chapter 8 summarises the findings of the study, recommendations and discusses the study's limitations, possible future research and a reflection of the study.

CHAPTER 8
CONTRIBUTIONS AND RECOMMENDATIONS FOR THE IMPLEMENTATION OF THE FRAMEWORK FOR ENTREPRENEURIAL EDUCATION

8.1 INTRODUCTION

The purpose of this study was to explore the literature in detail on successful EE programmes and acquire feedback from the EWP participants that completed the programme to establish best practises for EE. The study focussed on the evaluation of the existing EWP, by conducting an SLR to establish current best practises in developed and underdeveloped countries and the creation of a framework to enhance EE at the NWU bhive EDC.

Chapter 7 gives a synopsis of the components of the combined framework for EE that include the findings of the SLR and the case study. The chapter confirmed the importance of a more focussed approach to EE programmes. Designers of EE programmes must clearly define the target audience of the EE programme and understand their entrepreneurial training needs (Quach *et al.*, 2020:10). The findings confirmed that EE programmes must focus on a learning by doing approach instead of a traditional classroom methodology.

The purpose of Chapter 8 is to culminate the previous chapters and evaluate if the objectives of the research statement have been addressed (Figure 7.1). This chapter reflects on the primary, theoretical and empirical objectives set out in Chapter 1. Furthermore, Chapter 8, discusses the limitations, the contributions and recommendations based on the findings of Chapters 4 and 6. In addition Chapter 8 concludes the findings and recommends future research opportunities.

8.2 RESEARCH FINDINGS

8.2.1 Achievement of primary and secondary objectives

The background study of entrepreneurship confirmed that limited EE training opportunities and limited access to the opportunities are a challenge for all entrepreneurs. Female entrepreneurs experience unique additional problems, limitations and barriers (§1.1) (Greene *et al.*, 2003:1). The research aims to answer the question: How can the inputs from the EWP participants as well as the SLR on EE be used to develop a framework to assist in the development and delivery of high-quality entrepreneurial programmes to a large number of entrepreneurs?

The format of the current EWP offers training opportunities to a limited number of women living around the three campuses of the NWU. To create access for more female entrepreneurs and

create a more flexible and adaptable EWP an SLR was conducted to establish best practises and evaluate the EWP with a aim to create a framework for an EE model.

The primary objective for the study was:

- To create a framework for EE at the bhive EDC of the NWU that is aligned with international best practises and is relevant and sustainable.

The study followed a phased approach. During Phase I of the study an SLR was conducted. Phase II consisted of the case study of individual interviews with participants of the EWP and in Phase III the EE framework was created. A framework was developed based on the findings of the SLR and the case study. The primary objective of the study was achieved. The framework is discussed in detail in Chapter 7 while the practical guide to use the framework is deliberated in §8.4.1.

The secondary objective of the study was to conduct a SLR to address the following theoretical objectives:

- To explore current best practises in EE.
- To explore existing models for EE in developed and underdeveloped countries.
- To explore the fundamental requirements to create a sustainable EE programme.

The methodology used to design and conduct the Phase I SLR to explore the current best practises in EE, to explore the existing EE in developed and underdeveloped countries is discussed in Chapter 3 and the findings of the SLR in Chapter 4. The Phase II methodology of the case study to explore the fundamental requirements to create a sustainable EE programme at the NWU bhive EDC is discussed in Chapter 5 and the findings of the case study in Chapter 6. The results are summarised in Table 8.1.

Table 8.1: Appraisal of secondary objectives

Secondary objectives	Outcome	Status of objective
To explore current best practises in EE.	The SLR explored the current best practises in EE. Methodology discussed in Chapter 3. The findings of the SLR are discussed in Chapter 4.	Achieved
To explore existing models for EE in developed and underdeveloped countries.	The SLR explored the existing EE models in developed and underdeveloped countries. The findings of the SLR are deliberated in Chapter 4.	Achieved

To explore the fundamental requirements to create a sustainable EE programme.	The Case study and the SLR explored the fundamental requirements for a sustainable EE. The case study methodology discussed in Chapter 5 and the findings of the case study are discussed in Chapter 6 and the SLR findings in Chapter 4.	Achieved

Source: Own Compilation

8.2.2 Research findings

The findings of this study are divided between the findings of the SLR and the findings of the case study. Some of the findings of the SLR and the case study agree or complement each other. Certain findings only occur in either the SLR or the case study

8.2.2.1 The findings of the SLR and the case study agree or complement each other in the following instances:

Continuous entrepreneurial training and learning

Continuous entrepreneurial training and learning is defined as the process of continuously growing knowledge to gain new know-how and skills. The SLR identified various researchers that confirm the constant nature of EE (Osorio & Cordero, 2014:173; Wang & Chen, 2013:47-48; Wang, 2016:281; Zheng *et al*., 2017:1395).

The participants of the case study indicated that the EWP made them realise the importance of continuous learning. Participants indicated that next-level follow-up training and continued access to coaches, as well as training material could be added to the current EWP (§6.3.1). The findings of the SLR and the case study agreed on the importance of personalised education.

Personalised Education

Although Fayolle (2013:695-699) concludes that general EE programmes pursue a one-size–fits-all methodology for training. Quach *et al*. (2020:117) argue that a custom-made EE methodology is required to improve the effectiveness and efficiency of EE programmes focussed on specific types of entrepreneurs. Case study participants indicated that they prefer more focussed and personalised entrepreneurial training (§6.3.6), which should include entrepreneurship skills.

Entrepreneurship Skills

The findings of the SLR identified a detailed list of entrepreneurship skills that are associated with successful entrepreneurship (Table 4.4). The case study participants indicated that the training

on the brand development and market research had the biggest impact on them and their businesses. The participants found the market research, (especially speaking to potential customers) challenging (§6.3.3). Entrepreneurs find it easier to learn the different entrepreneurship skills when using a problem-based learning approach.

Problem-based learning

The SLR demonstrated that problem-based learning methodology is regarded as the core of EE (Li, 2010:2-3). Problem-based learning, requires active learners solving problems in contrast to passive learners that receive knowledge (Li, 2010:2-3).

The findings of the case study confirmed the EWP participants enjoyed not just traditional classroom teaching, but also training forcing them to think about their business (§6.3.7). Learning by doing forms an integral part of problem-based learning.

Learning by doing

The Camp Model is an outstanding example of learning by doing (Li, 2010:2). Students are pressured and actively involved that lead to faster learning and a better grasp of applying disciplinary knowledge to real-life problems as well as being trained in idea generation and idea-to-concept development techniques. Learning by doing methods include games and business simulations (Fayolle & Gailly, 2012:579-580).

Case study participants emphasised the following positive learning by doing aspects of the EWP: teamwork, assignments and application of acquired skills. The practical market research gave participants the opportunity for practical learning (§6.3.5). The findings of the case study confirmed the importance of including soft skills training in the EE.

Soft skills

The SLR findings identified important soft skills (Table 4.6) (Arthur & Adom, 2020:717; Botha *et al*., 2007:164; Li, 2010:2; Zheng *et al*., 2017:1398). The soft skills included in EE programmes depend on the specific needs of the target market of the EE.

The findings of the case study confirm the need of the EWP participants for soft skills to be included in their entrepreneurship training. Participants identified the following soft skills that should be added to the EWP: basic life skills, time management skills, how to create goals, having a positive attitude, social networking skills and critical thinking skills. The skills identified are

unique to the participants of the case study and the soft skills identified will differ for each unique group (§6.3.2). Soft skills training form part of entrepreneurial competencies.

Entrepreneurial competencies

Researchers identified some of the important competencies to include in entrepreneurial training (Table 4.9) (Abou- Warda, 2016:699-706; Awaysheh & Bonfiglio, 2017:334; Bell, 2020:3; Fayolle & Gailly, 2012:579). The entrepreneurial competencies in Table 4.9 are divided into three categories: business creation and management skills, soft skills and entrepreneurial conviction.

Case study participants identified understanding of the impact of external factors on the business, market research training and the basic steps of building a business as the most important competencies included in the EWP (§6.5.4). EE programmes must include creativity training as part of entrepreneurial competencies.

Creativity and creative thinking

Several of the researchers included in the SLR identify the importance of creativity-enhancing training as part of the EE programmes (Lourenço & Jayawarna, 2011:225; Nugraheni *et al*., 2019:195-196; Wang & Chen, 2013:45).

The case study participants concluded that the following creativity training included in the EWP had a positive or big impact on their business: to think outside the box, insight into the process to change the marketing plan and the ability to identify new business ideas. The findings of the case study validated that the EWP participants enjoyed the format of the selection day boot camp (§6.2.2). The selection day boot camp forms part of the Camp Model for EE.

Camp Model for EE

The Camp Model has a future focus while the teacher act as a facilitator (Li, 2010:1-2). The students are taken out of their normal learning environment to interact with students from other disciplines and schools (Li, 2010:1-2). The students work in cross-disciplinary teams to create businesses.

Before the COVID-19 pandemic, the potential EWP participants were invited to a selection day boot camp, which was based on the Camp Model principles. Potential participants had to work in teams and present their business ideas to a panel of judges (§6.2.1). Teachers act as facilitators when using the Camp Model for EE.

Teacher as facilitator

The SLR validated that teachers should act as facilitators and not teach in traditional teaching methods (Boldureanu *et al*., 2020:5; Li, 2010:1-2). Where the teacher acts as a facilitator the focus move to providing resources while encouraging students to solve problems. The facilitators also monitor students' progress to ensure students apply the knowledge gained (Quach *et al*., 2020:117-119). Table 4.7 summarises what facilitators should focus on.

The findings of the case study verified that participants had a positive learning experience with the facilitators and that the facilitators ensured that the participants understood the content. The facilitators availed themselves for additional learning, had patience and offered good guidance (§6.3.8). Facilitators also promote the use of key speakers and case studies to enhance the learning experience

Use of key speakers and case studies

Findings of the SLR promote the use of key speakers and case studies in EE. Li (2010:2) and Wahyuningsih *et al*. (2018:452) maintain the use of key speakers, field trips and business visits as part of fundamental entrepreneurial activities. Zheng *et al*. (2009:4) propose the use of case studies, specifically where business owners present their case study live to allow interaction between the students and the business owner, allowing students to comprehend the case study which includes the owner's challenges.

The case study findings validate the EWP participants' need to engage with local entrepreneurs and influential people, as well as listen to key speakers and engage with potential funders (§6.5.11). The engagement with local entrepreneurs and key speakers assists participants to develop their business model canvas to their full potential.

Use of Business Model Canvas

A business model is a framework that supports a value proposition to customers while including the revenue and feasibility cost for the business that delivers the value. The BMC designed by Osterwalder is the most broadly accepted business framework for business model innovation in academia (Lima & Baudier, 2017:161). Table 4.10 shows the practical and perceived benefits of the BMC. Not all researchers are equally impressed by the BMC. Euchner and Ganguly (2014:35-36) argue that the BMC does not fairly represent the relationships between the different elements, and the BMC does not consider some strategic elements like economic leverage points or the

competitive position of the company. In my opinion the BMC is a powerful and creative tool that simplify the business model creation process.

Case study findings indicate that the EWP participants viewed the BMC training and the use of the BMC in a positive light (§6.5.10). Participants must use reflection as part of the BMC development process.

Reflection

Bell and Bell (2016:6) and Farber *et al*. (2015:345) agree that reflecting on learning experiences forms a significant part of the experiential learning model and is critical in assisting students to apply what they learned.

The EWP participants indicated that through reflection, they were able to learn from their own mistakes as well as the mistakes of other participants and the feedback from the facilitators (§6.5.8). Facilitators need to act as mentors to the participants.

Mentorship

Mentors add to the students learning experience by sharing their insight grounded on their own experiences (Bell & Bell, 2016:6). Students perceived the participation of mentors as an opportunity to demystify the entrepreneurial process. Students that participated in the study by Bell felt they received a real experience (Bell & Bell, 2016:7-14).

In addition to the findings of the SLR the EWP participants have specific needs. The next section discusses some of the EWP participant's specific needs.

8.2.2.2 The participants of the case study identify the following specific needs:

Entrepreneurial process

The case study indicated that the EWP training gave participants a better understanding of the business process, financial management and creating sustainable business growth. The participants want the following training added to the EWP: How to franchise a business, how to sell shares in a business and how to select the right suppliers for the business. The participants indicated the BMC training and the customer discovery (market research) had the biggest impact on their business (§6.4.2). The entrepreneurial process training includes business training skills like problem-solving and decision-making.

The findings of the SLR conclude that the entrepreneurial process consists of steps in the development, start, running and growing of a business and include components of both the art, and science of entrepreneurship (Zheng *et al*., 2009:1). The different authors do not agree on the entrepreneurial process or the number of steps involved (Barraza, 2021; Sutevski, 2021). A four step process is proposed by Barraza (2021): (1) idea generation; (2) business planning and decision-making; (3) creation of the business project; and (4) control and management of the business. Sutevski (2021), however, outlines a seven-step entrepreneurial process: (1) research, (2) analyse, (3) conclude (4) plan (5) apply (6) measure and (7) improve. Even though the authors cannot agree on the number of steps in the entrepreneurial process, they do agree that the process should consist of various steps for more effective learning (Lourenço & Jayawarna, 2011:238).

Business training

The case study concluded that the EWP training taught participants to have a positive attitude and to find solutions to challenges, while the elevator pitch training was a great aid in presenting the business to potential customers and the ability to generate new business opportunities (§6.4.1). The effectiveness of business training is enhanced by a hybrid learning model.

Quach *et al*. (2020:2-4, 10) argue that business training focusses on the development of entrepreneurial skills and competencies to start and run a successful business. These skills and competencies include problem-solving skills, critical thinking skills, the use of the business plan or BMC, the importance of teamwork and leadership skills (Henry & Treanor, 2012:2-3; Sherkat & Chenari, 2020:6,18).

Hybrid learning model

The EWP participants indicated they prefer a combination of face-to-face and online learning (zoom, training videos and other online tools) and components that include group work (§6.5.1). Some of the EWP participants suggested that difficult subjects like financial management should be taught face-to-face. A hybrid-learning model utilises the traditional learning in an academic environment as a foundation for entrepreneurial training but follows a non-traditional or experiential learning format to facilitate practical learning (Maritz & Foley, 2018:7; Osorio & Cordero, 2014:175,184).

Financial management training

Financial management training was one of the most mentioned codes identified in the case study. The participants of the case study agreed that the financial management training was difficult but had a big impact on their business. They were divided on whether the training should be presented face to face or online (§6.5.5). The limited financial management skills of the EWP participants lead to challenges with access to funding. A large percentage of aspiring and start-up entrepreneurs, especially female entrepreneurs find financial management aspects of business challenging (Botha *et al*., 2007:164; Swarnalatha & Vasantha, 2014:9-12).

Access to funding

The findings of the case study confirmed that access to funding is a challenge. Participants argue that training on how to access funding and how and where to apply for funding should be included in the EWP training (§6.5.6). The EWP participants also experienced legal challenges and difficulty understanding contracts. Studies by Van Vuuren and Groenewald (2007:48), Herrington and Kew (2018:27) and Bosma *et al*. (2020:17) confirmed that one of the common challenges that entrepreneurs encounter includes lack of assets and limited access to start-up capital.

Understanding contracting and legal

The case study confirmed that the participants need training to better understand the laws applicable to contracts and how to approach business contracts (§6.5.9). The study by Wang and Chen (2013:48), Bosma *et al*. (2020:17) and Herrington and Kew (2018:27) argue that tertiary institutions ought to implement a specialised curriculum for EE. Solid professional skills and knowledge must form part of this curriculum. These professional skills should include financial and legal knowledge (contracting) (Wang & Chen, 2013:48). In addition the use of digital platforms and social media are discussed next.

Use of digital / online / social media

Social media and the use of online and digital tools to promote business is a growing trend (Seo & Park, 2018:36). Sajid (2016:2) concludes that the use of social media is a convenient process for a company to interact and build a relationship with customers.

The case study participants identified the following training needs: (1) how to create activity and interest on the business social media, (2) how to use Instagram and other social media platforms for business marketing and (3) how to use of online surveys as part of the customer discovery

(market research) process. Participants suggested that website development and maintenance can be added to the EWP as training topics (§6.5.12).

Section 8.2.2.1 emphasised the findings of the SLR and the concurred or complimented each other. Section 8.2.2.2 underlined the specific needs of the EWP participants. The next section discusses components of the SLR and case study that could not be compared directly due to the technical nature of the information.

8.2.2.3 The following findings were presented in the SLR only

The findings of the SLR included references to existing EE models that is not referred to in the case study. The main reason for the lack of the above-mentioned findings in the case study is due to the very specific target market of the case study. The participants of the case study consist of female entrepreneurs, predominantly in the pre-start-up and start-up phases of starting a business. The participants aren't experts in the field of entrepreneurship education.

8.3 Relationship between the research question and the research themes to the theoretical base of the study.

The theoretical basis of this study is founded in various theories. These theories include the entrepreneurial attributes theories, the gender theories, motivation theories, the performing belonging theories and access to financial capital theories. Table 8.2 summarise the study's research themes and the relationship of these themes to the study's theoretical base concerning the research question.

Table 8.2: Relationship between the research question and the research themes

Research Question	Research themes	Theory category	Relevant theory
How can the inputs from the participants of the EWP and the study of the literature on EE be used to develop a framework to assist in the development and delivery of high-quality entrepreneurial programmes to a larger number of entrepreneurs?	Overview of EE (Include: Knowledge skills [technical & soft] and execution of EE)	Opportunity creation / discovery theory, work life balance theory	Opportunity creation theory, work life balance theory
	Entrepreneurial training and development (Include: Approach to EE, EE strategies and EE support)	Leadership theories Self-actuation theory Entrepreneurial attributes theories Gender theories	Leadership theories Self-actuation Need for achievement theory Social role theory
	Initial entrepreneurial framework (Include: Existing EE models, use of business competitions, simulation and serious games, creativity, and experiential learning)	Entrepreneurial attributes theories	Innovation theory Uncertainty theory
	Overview of EE (Include: Knowledge skills [technical & soft] and execution of EE)	Opportunity creation / discovery theory, work life balance theory	Opportunity creation theory, work life balance theory

Source: Own compilation

8.3.1 The overview of the EE theme includes:

Opportunity creation and discovery theory: Opportunity creation ensues when entrepreneurs actively search for new opportunities while opportunity discovery follow when entrepreneurs seize existing opportunities (Alvarez & Barney, 2007:11).

Work-life balance is grounded in the work-life balance, systems and boundary theory. Life and work can only be in balance in the absence of role conflict. The systems theory argues that life segments overlap are interrelated with blurry boundaries and that segments produce better results when working together (Mele *et al.*, 2010:127). The boundary theory argues that individuals facing two or more demands must find a balance between the contesting demands (Koubova & Buchko, 2013:701).

Interviewee 8 indicated that she found it difficult to allocate time to studies, business and the other segments of her life.

8.3.2 The entrepreneurial training and development theme includes:

Leadership theories, including “think manager, think like a man” discriminates against women entrepreneurs as they view women as unfit for leadership positions. Culture and society establish gender roles (UNFPA., 2005).

EE strategies include the drive to achieve success. The success theme is drawn from the self-actualisation theory of Maslow. The theory focusses on a hierarchy of needs and self-actualisation, which is considered the highest level of satisfaction (Heylighen, 1992:40).

Entrepreneurial attributes theories include the need for achievement. Research by David McClelland is considered the start of the behavioural scientist’s contribution to entrepreneurship research through the analyses of the cultural, social and psychological aspects of entrepreneurship (Nieman & Nieuwenhuizen, 2009:4). The work by McClelland emphasises the individual’s motivation relating to entrepreneurship and management and concluded that three different needs that motivate people are the need for power, achievement and belonging (Bjerke, 2007:72; McClelland, 2005:355-366).

The participants of the case study indicated that the EWP training empowered them. Meeting like-minded individuals and the teamwork highlighted a sense of belonging.

Gender theories include the social role theory which determines that men and women act in accordance with the social roles attributed to the genders by society (Balachandra *et al.*, 2013:3).

The masculine stereotype model relates agentic instrumental attributes with self-confident, strong men, and the feminine stereotype model relates communal-expressive attributes with gentle women (Gupta *et al.*, 2012:773). This typical perceived gender functions prescribe men to the "breadwinner" role and women in contrast are prescribed the "caretaker" role placing women entrepreneurs at a disadvantage (Balachandra *et al.*, 2013:6).

8.3.3 Initial entrepreneurial framework theme

The initial entrepreneurship framework theme includes entrepreneurial attributes theories concerning innovation and uncertainty. Schumpeter associated entrepreneurship with innovation as he regarded entrepreneurs as innovators that crush the status quo by introducing new services and products to the market (Filion, 1997:4; Schumpeter, 1983:11). Uncertainty is regarded as a critical component of entrepreneurship. Entrepreneurs are prepared to take on risks due to the nature of the environment in which they operate (Filion, 1997:4). Entrepreneurs are viewed as confident and possess the ability to bravely continue with business amidst intensive risk and uncertainty (Long, 1983:51).

Interviewee 1 indicated that the EWP training taught her to have a positive attitude and find solutions when facing challenges. The training gave her the confidence to change the marketing focus of her business.

8.3.4 Framework for EE theme

The framework for the EE theme includes entrepreneurial attributes theories such as the social capital theory, the opportunity relational feminist theory, the relational and collaborative women in leadership theory, the expectancy motivation theory and the access to financial capital gender role congruity theory.

The social capital theory argues that human beings will get support from members of a network they belong to (Bourdieu, 1986:248-251; Bowey & Easton, 2007:171).

The case study participants verified the need to network and belong to relevant business groups.

The relational and collaborative theory demonstrates that women entrepreneurs engage with customers and staff in a more participative and collaborative style. Female entrepreneurs are more interactive, democratic and relationship-focussed (Moore *et al.*, 2011:221; Reavley & Lituchy, 2008:272).

The expectancy motivation theory argues that entrepreneurs motivated to start a business expect that the business will be profitable resulting in financial rewards and greater independence and flexibility (Manolova *et al.*, 2008:69).

Various academic studies demonstrated that female entrepreneurs have more difficulty accessing finance for their business (Herrington *et al.*, 2017:49; Manolova *et al.*, 2008:69). The gender role congruity theory illustrates that creditors apply disparate levels of judgement when evaluating the performance of male and female entrepreneurs (Eddleston *et al.*, 2016:490). These practices are to the detriment of female entrepreneurs when applying for loans or engaging with the loan officers of financial institutions (Eddleston *et al.*, 2016:491).

A large percentage of the case study participants indicated that they found the financial management training challenging and that they wanted additional training on how to access funding for their businesses.

8.4 CONCLUSIONS OF STUDY

The main conclusion that can be derived from the findings of the SLR and the case study include:

- EE cannot be presented in a traditional one-size-fits-all classroom approach.
- EE programmes should be customised to fit the skill set and training needs of the target audience.
- Both entrepreneurial skills and soft skills training should be included in EE.
- Teachers presenting EE should function as facilitators and ideally have entrepreneurial experience.
- Participants prefer an interactive, practical approach to EE.
- Existing entrepreneurs prefer a practical, experiential training approach to EE that include case studies.

The conclusions informed the framework for EE.

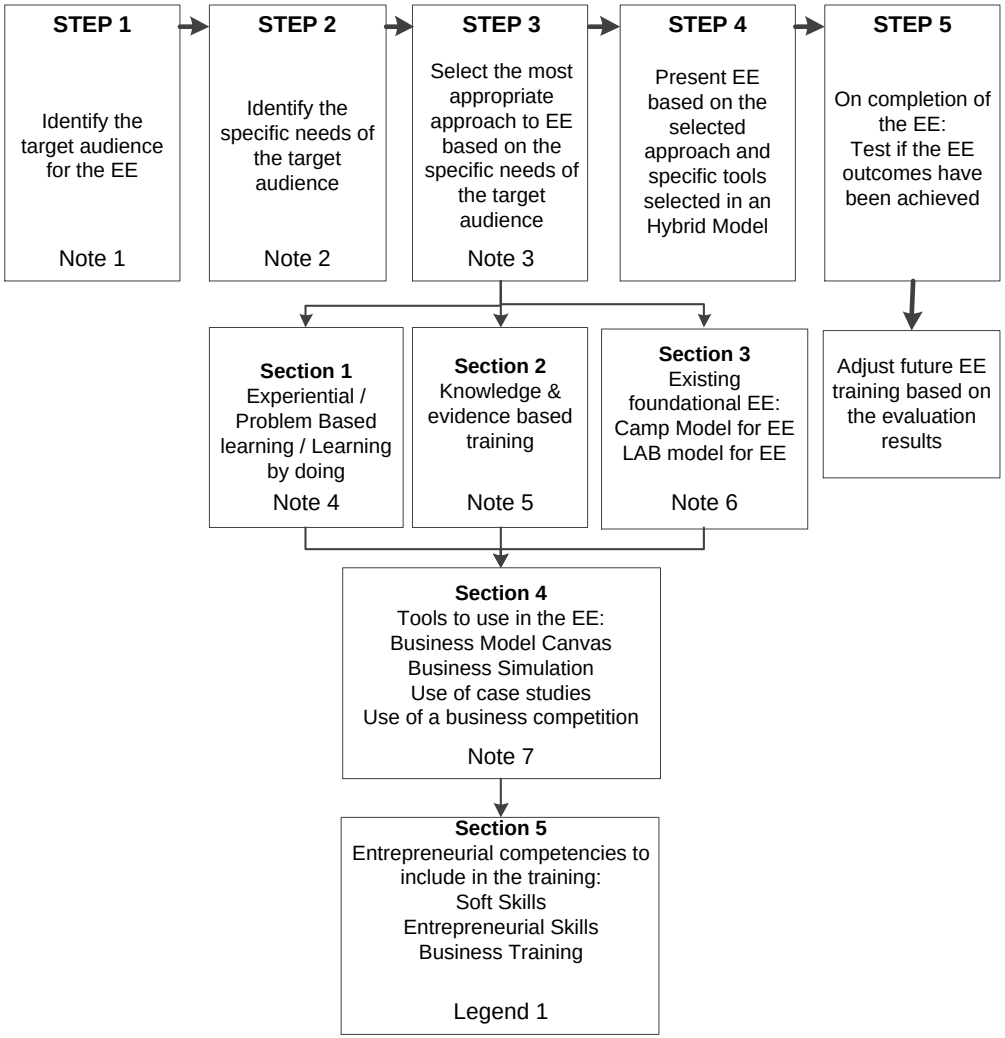
8.5 RECOMMENDATIONS OF THE STUDY

The recommendations include a schematic representation and a discussion of the practical guide to use the EE framework and a discussion of the managerial implications for all the stakeholders.

8.5.1 Practical guide to use the framework for EE

The framework for EE is discussed in detail in Chapter 7 and Table 7.1. Figure 8.1 is a schematic representation of the guide to use the EE framework.

Figure 8.1: Schematic representation of the guide to use the EE framework



Legend 1

Entrepreneurial Competencies

Soft Skills
Leadership
Creativity
Propensity to take risk
Wakefulness
Teamwork
Communication skills
Problem-solving skills
Self-confidence
Achievement motivating skills
Internal locus of control
Resilience
Self-efficacy
Planning skills
Budgeting skills

Entrepreneurial Skills
Creativity and innovation
Critical thinking
Decision-making methods
Entrepreneurship finance and law
Idea generation and concept development
Initiative learning methods
Administrative management and technological skills
Market knowledge
Market research skills
New opportunity creation
Organisational skills
Project engagement
Problem-solving
Marketing and sales
Self-confidence
Self-directed learning skills
Self-motivation
Taking calculated risks
Teamwork
Tenacity
Time management
Financial management
Use of BMC
Use of business plan

Business Training

A positive attitude is required to find solutions to problems.
Entrepreneurs must be able to change in order to grow their business.
Use a step-by-step approach to the BMC training to make it easier to understand.
The practical application of newly acquired knowledge makes it easier to learn.
Participants find the financial planning and budgeting difficult to understand and execute.
Include how to sell shares in the business as part of the training.
Participants find the customer discovery training challenging.
Include idea generation training.
It is important to include presentation skills training.
Include idea to concept training.
Participants should learn to have a long-term focus to grow a sustainable business.
Supply more information on the process to franchise a business.
Include training on online and social media marketing.
The training must be well-rounded and include elements like presentations, group work and individual assignments.
Include product costing and product pricing training in the financial training.
Teach the entrepreneurial process and the pre-launch steps required to start a business.

NOTES:

1. The target audience can be: Female entrepreneurs, youth entrepreneurs, township entrepreneurs, engineering students, specific communities, groups with similar skill sets and interests.
2. Different focus groups will have different needs based on their interests and existing skill sets.
3. The approach for start-up entrepreneurs will differ from entrepreneurs with existing businesses. Existing entrepreneurs prefer experiential learning methods and case studies.
4. The experiential training model allows the students to participate in interesting, appealing activities that have a real world basis. These experiential activities assist the students to connect what they are learning to their prior knowledge and enable them to apply this knowledge to new problems or situations.
5. Knowledge-based entrepreneurial model focusses on the ability to create or recognise an opportunity focussed on an innovative product or innovative knowledge product. Knowledge entrepreneurship focusses on the opportunity with the goal to improve the production or knowledge in general, rather than a focus on maximising profit.

   Evidence based education refers to effective educational strategies that is supported by research and evidence.
6. The Camp model of Entrepreneurial Education take students out of their normal environment into a camp type environment where they can focus on the entrepreneurial education.

   The LAB studio model is a multidisciplinary education model aimed at producing skilled professionals, self-directive teams and company start-ups within a certain industry focus. In this way, the model can also be described as a pre-incubator.
7. Business simulation is a hands-on and interactive learning experience where participants truly engage in the business process. The simulation can be computer- or classroom-based.

   The use of case studies in entrepreneurial training to understand complex issues in a real life context.

   Universities use business competitions to motivate students to come up with business ideas in order to win prizes and support to create a business.

8.5.1.1 Practical suggestions on the use of the Figure 8.1 guide to use the EE framework

The practical guide includes five steps and five sections to assist with the development of an EE framework.

Step 1: Identify the target audience for the EE

The target audience can include special groups like youth entrepreneurs, female entrepreneurs, engineering students and accountants. Resulting in similar skill sets, unique challenges and interests. Once the target audience has been identified, the specific needs of the group can be established.

Step 2: Identify the specific needs of the target audience

The study confirmed that a traditional one-size-fits-all classroom approach to EE is not effective. EE programmes must be customised to fit the needs of the specific target audience (Zeng & Honig, 2016:242-243,246). The most appropriate approach to the EE programme is directly linked to the needs of the target audience.

Step 3: Select the most appropriate approach to EE based on the specific needs of the target audience

The process to select the most suitable approach dictated by the specific needs of the target audience is discussed in the next five sections.

- **Section 1 Experiential/ problem-based learning by doing**

Experiential learning, problem-based learning and learning by doing combine enterprise and hands-on experience with coaching and mentoring in a competitive environment (Bell & Bell, 2016:751). Existing entrepreneurs prefer experiential learning methods (Fayolle, 2013:696-967; Osorio & Cordero, 2014:173), while start-up entrepreneurs find knowledge-based training valuable (Osorio & Cordero, 2014:175). Section 2 discusses the knowledge and evidence based model for EE.

- **Section 2 Knowledge and evidence-based training**

The knowledge and evidence-based model for EE starts with the participants reading, watching, and listening to the study content to gather information before advancing to the next level of learning (Gorsky, 2021). The knowledge model consists of know-what (Management, finance etc.), know-who (networks or people) and know-how (operation and production, risk

management) knowledge (Fayolle & Gailly, 2012:578). Some of the existing EE models like the Camp or LAB Model can be used if the models are aligned with the needs of the target audience.

- **Section 3 Existing foundational EE: Camp Model and LAB Model for EE**

The existing foundational models can be incorporated into EE programmes to address the training needs of the target audience. The Camp Model is presented over a fixed number of days and is hosted away from the student's normal place of study. The students work in interdisciplinary teams to solve a business problem (Li, 2010:1-2) (§2.9.2.3 and §4.4.1.1).

The LAB Model utilise a laboratory environment methodology, where students build concepts and experimentation takes place (Heikkinen & Stevenson, 2016:6-8) (§2.9.2.3 and §4.4.1.2). The EE programme ought to include applicable business and business training tools that align with the needs of the target audience.

- **Section 4 Tools to use in the EE:**

The basket of tools to use in EE include the BMC, business simulation, use of case studies and the use of business competition.

The BMC is a computer or paper-based framework that simplifies the process of creating an innovative business model (Osterwalder & Pigneur, 2010:15)(§2.9.2.2 and §8.3).

- **Business simulation**

The use of business simulation assists students to understand the complexities and realities of running a business. Business simulation can be used as part of the experiential learning process to practically transfer know-how knowledge as students can directly apply acquired knowledge (Charrouf & Janan, 2019:3842). Business simulation is discussed in §4.4.1.3.

- **Use of case studies**

Linking case studies to the topic and situation students are studying substantially contributes to their motivation and understanding of the content (Wahyuningsih *et al*., 2018:452). Case studies aid students to answer know-when-type questions (Fayolle & Gailly, 2012:579) (§4.4.3.6 and §6.5.11).

- **Use of business competition**

Bell and Bell (2016:8-9) argue that the use of business competitions in the education environment is an effective experiential learning approach. Business competitions can consist of different phases where only the group or individuals that complete a phase, move to the next phase of the

competition (Bell & Bell, 2016:7-9). Research by Sherkat and Chenari (2020:17) confirmed the importance of business competitions as part of experiential learning in the EE process. (§2.9.2.2 and §4.4.1.3). The EE programme must include the relevant entrepreneurial competencies.

- **Section 5 Entrepreneurial competencies to include in the EE training**

Entrepreneurial competencies are defined as the mindsets and behaviours required by entrepreneurs to accomplish and maintain business success for example initiative, commitment opportunity-seeking, persistence, goal setting, taking calculated risks and systematic planning (Quach *et al*., 2020:119; Zheng *et al*., 2009:1). Table 4.9 summarises important entrepreneurial competencies to include in EE.

Soft skills represent the individual's approach to life and work. Most people require some assistance to improve their soft skills to be better employees, leaders and entrepreneurs. Soft skills include teamwork, leadership skills, communication skills, problem-solving skills, work ethic and adaptability (§4.3.2.4, §6.3.2 and Table 4.6).

Entrepreneurship skills incorporate innovation, creativity, the ability to take risk (calculated risk), plan and manage projects, communication skills, business management skills, teamwork and leadership skills, critical thinking skills, financial skills, customer focus, strategic thinking, adaptability, stress management and visionary skills (Lima & Baudier, 2017:174-175; Sai *et al*., 2019:84). Table 4.4 gives a summarised identified entrepreneurship skills.

Business training skills are a collection of abilities such as problem-solving, decision-making, planning, delegation, communication, marketing, market research, customer discovery, customer service, financial management and time management skills required to run a business successfully (Sherkat & Chenari, 2020:18) (§6.4.1). Once all the relevant components of the EE are identified, the programme can be presented

Step 4: Present EE based on the selected approach and specific tools selected

The EE programme should be presented in a hybrid model with the teachers acting as facilitators. Facilitators with real business experience is preferred. The presentation of the EE programme is not the last step in the process. As part of the continuous learning process the EE programme should be evaluated.

Step 5: Steps to take once the EE training is completed

The findings of the SLR confirmed the lack of accurate measurement of the results of EE initiatives (Quach *et al*., 2020:3). The EE training initiative should be analysed and evaluate the EE outcomes. The findings of the SLR and case study and the EE framework compiled, have some managerial implications for the stakeholders.

8.5.2 Managerial implications for all stakeholders

A diverse group of stakeholders should take note of the implications of the EE framework.

8.5.2.1 South African government, policymakers, politicians and the department of education

Government policy

Governmental institutions should focus on creating an enabling environment and offering practical training to aspiring and existing entrepreneurs (Herrington & Kew, 2018:17). The promotion of entrepreneurship should form part of the government's economic strategy. The development policies of governments should be adjusted to promote entrepreneurship training from a young age as part of basic education (Almodóvar-González *et al*., 2020:15; Herrington & Kew, 2018:17).

Likewise promote gender equality in entrepreneurship and EE in educational and economic frameworks (Gatewood *et al*., 2009; Herrington & Kew, 2018:27; Herrington *et al*., 2017:18,82; Van Vuuren & Groenewald, 2007:270,272,276,278). In addition, the government should subsidise professional and EE training for female entrepreneurs and other specific groups like youth entrepreneurs to counter high unemployment rates (Herrington & Kew, 2018:27). Recommend, support and fund research in EE and the measurement of the success of EE programmes.

Department of Education

As a development tool, the Department of Education (DoE) ought to promote EE from a young age, starting in primary school, then secondary school and then into tertiary education. In the context of youth and graduate unemployment and the national drive for SMEs, the obligation to further student and graduate entrepreneurship have been growing progressively (Entrepreneurship Development in Higher Education, 2022). DoE responded by creating a platform for Entrepreneurship Development in Higher Education (EDHE) late in 2016. The EDHE programme has been included in the University Capacity Development Programme (UCDP) of the DoE (Entrepreneurship Development in Higher Education, 2022). The main goals of the EDHE

programme are student entrepreneurship, entrepreneurship development in academia and the development of entrepreneurial universities (Entrepreneurship Development in Higher Education, 2022). The department can use the findings of this study in conjunction with the EE framework to evaluate the content and training methods of current EE initiatives and update or adjust these initiatives where applicable. The EE framework can guide the policy and action plans required to build entrepreneurial universities (Entrepreneurship Development in Higher Education, 2022). The policies and procedures of the government in general and the department of Education impact how the universities, colleges and short course suppliers can respond to the need for entrepreneurial training.

8.5.2.2 Public and private universities and TVET colleges and short course suppliers

Institutions should move away from generalised EE training to a more focussed and custom approach to EE programmes aligned with current best practices. EE programmes need to be grounded on educational science and created around the interconnected key educational questions: Why (Objectives at socio-economic and learning levels), What – (Content), How – (Pedagogies and methods), For whom– (Target Audience) and For what result – (Evaluation) (Fayolle & Gailly, 2012:585-587). The EE programme ought to include both the art and the science of entrepreneurship and include both entrepreneurial skills and soft skills as part of the training. The use of key speakers, role models, mentors and networking opportunities add value to EE training, therefore teachers should act as facilitators and not as traditional teachers. Universities and colleges must partner with business to involve experienced, successful entrepreneurs as coaches and mentors in the EE programmes of the institutions.

Universities and TVET colleges need to prioritise and support research on the success factors of EE and create and maintain a database of current EE best practices applicable to South African circumstances. Institutions must transform into entrepreneurial universities and colleges and create a culture of continuous learning for entrepreneurs. The EDHE tasked the NWU to create an entrepreneurial ecosystem that spans all the faculties and departments of the NWU, to foster and promote entrepreneurship among students and staff (Entrepreneurship Development in Higher Education, 2022). The EE framework is an excellent structured support tool to assist NWU management with this task. The private suppliers of EE face challenges similar to the public and private universities and TVET colleges.

8.5.2.3 Private suppliers of EE

Private suppliers of EE ought to take note of the current trends and best practices and move away from generic EE programmes. The suppliers can use the EE framework of the study to create EE

programmes, customised to the needs of specific groups. Suppliers of EE should involve successful entrepreneurs as coaches, mentors and facilitators instead of academics with no real business experience and they must test for effective knowledge transfer of EE programmes. Business incubators deal with the EE needs of both start-up and existing entrepreneurs.

8.5.2.4 Business incubators

Business incubation is an important component of the continuous learning approach of entrepreneurs. Incubator managers should ensure that the incubators training initiatives stay abreast of the latest trends and best practices in EE. The EE programmes need to evaluate the effectiveness of transferring knowledge to the participants. Research should be conducted to identify the specific needs of the targeted entrepreneurs. Consultants like KPMG and PWC must partner with business incubators and other stakeholders to support the development of EE programmes.

8.5.2.5 Consultants like KPMG, PWC and Deloitte

The EE framework can support consultants to embrace the latest trends in EE and promote the use of successful entrepreneurs to act as coaches and mentors for EE participants. Consultants can act as facilitators between Small, Medium and Micro enterprises (SMMEs) and corporate South Africa.

8.5.2.6 Corporate South Africa

In line with the findings of the study corporate South Africa can use corporate social investment and Broad-Based Black Economic Empowerment (BBBEE) initiatives to promote entrepreneurship on various levels like the development or funding of EE programmes for specific groups or communities. Corporates can also act as mentors or sponsors for start-ups and SMMEs in EE programmes. The corporate companies can partner with government and universities to fund research on EE. Corporate South Africa can support the graduates of EE programmes (start-ups and existing SMMEs) by outsourcing non-essential services to these entrepreneurs.

8.6 STUDY CONTRIBUTIONS

This study and the EE framework were used to formally evaluate the EWP to identify potential improvements. The EE framework will be used to adopt the EWP and other EE short courses, programmes and entrepreneurial modules at the NWU. The NWU management can utilise the EE framework and results of the SLR to guide policies in developing a more entrepreneurial university to support academics in instilling an entrepreneurial mindset within students and

graduates (Entrepreneurship Development in Higher Education, 2022). The key contribution of the study is the framework for EE and the step-by-step guide to using the framework. The different elements included in the framework, as discussed in Chapters 4 and 6 and §7.2, illustrate the contributions of the study. The framework can assist all the stakeholders and other creators of EE programmes to create more focussed EE programmes.

The findings of the SLR give a good overview of the current trends and best practises in EE in both developed and underdeveloped countries. The SLR findings draw attention to important content to include in EE programmes, such as the inclusion of both the art and science of entrepreneurship (§4.2.1), guidance on entrepreneurial curriculum development (§4.2.4), different approaches to EE, for example continuous entrepreneurial training (§4.3.1.1), knowledge and evidence based entrepreneurial training (§4.3.1.2) and personalised entrepreneurial training (§4.3.1.3). The findings of the SLR confirmed the importance of including soft skills training (§4.3.2.4) as part of EE and contributed to a detailed list of soft skills (Table 4.6). Developers of EE programmes can choose between existing EE training models that are tried and tested in EE, such as the Camp Model (§4.4.1.1) and the LAB model (§4.4.1.2) and the use of business competitions and business simulation (§4.4.1.3).

The findings of the case study emphasise the importance of establishing the specific needs of the target audience of the EE programme. The Phase II case study findings (Chapter 6) cannot be applied to all South African entrepreneurs due to the very focussed nature of the case study, however, the findings indicate the training needs and challenges of female start-up entrepreneurs in Gauteng, Free State and North West. Some of the needs and challenges identified by the EWP participants such as the need for financial management training and challenges with access to funding are universal challenges confirmed by various studies (Herrington & Kew, 2018:27; Nambiar *et al.*, 2020:71-73; Van Vuuren & Groenewald, 2007:270,272,276-278).

8.7 LIMITATIONS OF THE STUDY

The SLR included peer-reviewed articles from the past ten years to establish the current EE best practices. Unfortunately, not all EE programmes are available in the public domain and could not be included in the SLR. The qualitative interviews focussed on the participants of the EWP only. Therefore, only the responses of female entrepreneurs in parts of South Africa (mainly Gauteng and North West) were included in the study. The findings of the study cannot be applied to all EE programmes. Section 8.7 discusses possible future research based on the findings of this study.

8.8 FUTURE RESEARCH

The framework is a good foundation for the development of EE initiatives. The framework can be further expanded to include the latest trends. A quantitative study that includes all the South African universities that offer EE training programmes can be conducted to ensure all relevant South African information is included in the study, which can significantly enhance the value of the framework as a foundation for the development of EE programmes. The Phase II case study focussed on female entrepreneurs around the NWU campuses. Future research can focus on other specific groups including youth entrepreneurs, township entrepreneurs and male entrepreneurs in the pre-start-up and start-up phases of starting a business. Quach *et al*. (2020:5) argue that there is a shortage of proper evaluations of EE programmes and that the use of control groups can improve the assessment of the outcomes of EE programmes. Future research can focus on the pre-and post-evaluation and the use of control groups to establish the effectiveness of EE programmes. The framework can be used as the foundation for the development of a measurement tool to evaluate the content of EE programmes. The proposed framework for EE can be expanded and evaluated to develop a more inclusive EE framework that can be applied to a larger target audience.

8.9 REFLECTION

When I started the PhD journey of building an EE framework, I did not expect to find a large number of new items or concepts to add to the current EE framework. I aimed to develop a framework that would add even more value to entrepreneurs, especially the female entrepreneurs who participate in the EWP. Sadly, the literature review confirmed that female entrepreneurs still have additional and unique challenges, for example, female entrepreneurs generally have lower education levels than male entrepreneurs (§2.6). The research also revealed that female entrepreneurs find it more difficult to access funding. Also, fewer women elect to pursue a career in entrepreneurship. An unexpected fact is that male entrepreneurs focus more on the financial, and profit objectives of business while female entrepreneurs are more purpose-driven and want to make a positive difference in the world (§1.1). Another surprising fact was that according to NEET statistics more females unemployed than their male counterparts are, although many have a higher level of education (§1.2).

I found the following findings of the SLR very interesting. It is possible to teach both the science and the art of entrepreneurship. The art of entrepreneurship focusses on reflection, innovation, and creative thinking (§4.2.1). The entrepreneurial process consists of the planning, launching, and building of a new business. The entrepreneurial process includes both the art and science of

entrepreneurship. New entrepreneurs must understand this process to create successful businesses (§4.22.2). For me one of the biggest take aways from the SLR findings is the importance of personalised EE (§4.3.1.3). The EE intervention must be designed around the target audience's specific needs and must follow an experiential learning approach (§4.3.1.3 & Figure 4.2). The training should include both entrepreneurial and soft skills training (§4.3.2.4 & Table 4.5), and the teacher acts as a facilitator. Key speakers, role models and storytelling can enhance the training experience for participants.

From the interviews with the participants of past EWP, it was clear that they needed a programme that will help them to build a business network and train them to use a social network. I did not expect the participants to also identify soft skills training as a need, however, it is in line with skills needed for the 4IR. I succumb that the need for training to identify finance sources is a sign of current challenging times.

The interviews made me realise that the EWP had a positive impact on all the participants, however, entrepreneurs and female entrepreneurs, in particular, require continuous assistance to keep on learning. The EWP participants need further training to grow their businesses. I also recognised that business creation is a team sport and not something, any person can do in isolation.

For the immediate future, this new framework will enhance and redevelop the current EWP. A challenge for any entrepreneurial programme is the diverse level of education and current entrepreneurial skills of participants. How will we ensure training available to all levels? It remains something to consider in every programme that we develop.

8.10 SUMMARY

The aim of this study was to develop a framework for EE at the NWU bhive EDC by conducting an SLR to establish current trends and best practises in EE for Phase I of the research. The Phase II case study interviews were conducted with participants of the EWP to establish their specific EE needs and to get their opinion what worked well, what can be improved and what needs to be added to the EWP. The findings of the SLR and the case study enabled the researcher to develop a framework for EE (Phase III) that cannot only be used to develop EE programmes at the NWU, but also by other stakeholders to develop new EE initiatives or evaluate and improve existing EE initiatives. Chapter 8 includes a step-by-step guide on how to use the framework for EE as part of the contribution of the study and the most important conclusions of the study. The conclusions include that EE programmes must be customised to align with the skills set and needs of the target audience, rather than a traditional classroom approach.

Participants prefer practical, learning by doing type approaches facilitated by experienced entrepreneurs.

BIBLIOGRAPHY

Abou- Warda, S.H. 2016. New educational services development. *International Journal of Educational Management*, 30(5):698-717. 10.1108/IJEM-11-2014-0142

Academy for Women Entrepreneurs. 2021. *EMPOWER training*. https://academyforwomenentrepreneurs.com/training/ Date of access: 4 Jun. 2021.

Adam, A. & Fayolle, A. 2015. Bridging the entrepreneurial intention-behaviour gap: the role of commitment and implementation intention. *International Journal of Entrepreneurship and Small Business*, 25(1):36-53.

Almodóvar-González, M., Fernández-Portillo, A. & Díaz-Casero, J.C. 2020. Entrepreneurial activity and economic growth. A multi-country analysis. *European Research on Management and Business Economics*, 26(1):8.

Alvarez, S.A. & Barney, J.B. 2007. Discovery and creation: alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal*, 191(2):11-26.

Alvior, M.G. 2014. *The meaning and importance of curriculum development*. https://simplyeducate.me/2014/12/13/the-meaning-and-importance-of-curriculum-development/ Date of access: 17 Aug. 2021.

Ambrish, D. 2014. Entrepreneurship development: an approach to economic empowerment of women. *International Journal of Multidisciplinary Approach & Studies*, 1(6):224-232.

Ardalan, K. 2018. Ideology: a multiple-paradigmatic approach. *Journal of Interdisciplinary Economics*, 31(2):1-18.

Arthur, K.N.A. & Adom, A.Y. 2020. Explorative study of entrepreneurship training programmes in Christian institutions in Ghana. *Journal of Enterprising Communities-People and Places in the Global Economy*, 14(5):713-727. 10.1108/jec-12-2018-0109

Awaysheh, A. & Bonfiglio, D. 2017. Leveraging experiential learning to incorporate social entrepreneurship in MBA programs: a case study. *International Journal of Management Education*, 15(2):332-349. 10.1016/j.ijme.2017.04.001

Babson College. 2021. *The DIANA project*. https://www.babson.edu/academics/centers-and-institutes/center-for-womens-entrepreneurial-leadership/diana-international-research-institute/research/diana-project/ Date of access: 4 Jun. 2021.

Balachandra, L., Briggs, A.R., Eddleston, K. & Brush, C. 2013. Pitch like a man: Gender stereotypes and entrepreneur pitch success. *Frontiers of Entrepreneurship*, 33(8):1-16.

Balan, P. & Metcalfe, M. 2012. Identifying teaching methods that engage entrepreneurship students. *Education and Training*, 54(5):17.

Balan, P., Clark, M. & Restall, G. 2015. Preparing students for flipped or team-based learning methods. *Education and Training*, 57(6):639-657. 10.1108/et-07-2014-0088

Barraza, C. 2021. *Entrepreneurial process stages*. https://barrazacarlos.com/entrepreneurial-process-stages/ Date of access: 16 Aug. 2021.

Beiler, M.R.O. 2015. Integrating innovation and entrepreneurship principles into the civil engineering curriculum. *Journal of Professional Issues in Engineering Education and Practice*, 141(3):40140141-40140148. 04014014. 10.1061/(asce)ei.1943-5541.0000233

Bell, R. 2020. Developing entrepreneurial behaviours in the Chinese classroom through value creation pedagogy. *Innovations in Education and Teaching International*:1-12. 10.1080/14703297.2020.1793800

Bell, R. & Bell, H. 2016a. Replicating the networking, mentoring and venture creation benefits of entrepreneurship centres on a shoestring: a student-centred approach to entrepreneurship education and venture creation. *Industry and Higher Education*, 30(5):334-343. 10.1177/0950422216660921

Bell, R. & Bell, H. 2016b. An enterprise opportunity for entrepreneurial students Student enterprise development and experience assessed through the student voice. *Education and Training*, 58(7-8):751-765. 10.1108/et-12-2014-0150

Bjerke, B. 2007. *Understanding entrepreneurship*. Massachusetts:: Edward Elgar Publishing.

Blaikie, N. 2007. *Approaches to social enquiry - advancing knowledge*. 2nd ed. Cambridge, UK: Polity Press.

Blesia, J.U., Iek, M., Ratang, W. & Hutajulu, H. 2019. Developing an entrepreneurship model to increase students' entrepreneurial skills: an action research project in a higher education institution in Indonesia. *Systemic Practice and Action Research*, 34:53-70. 10.1007/s11213-019-09506-8

Boeije, H. 2002. A purposeful approach to constant comparative method in the analyses of qualitative interviews. *Quality and Quantity*, 36:391.

Bogdan, R.C. & Biklen, S.K. 2007. *Qualitative research for education: an introduction to theories and methods*. 5th ed. United States of America: Pearson.

Boldureanu, G., Ionescu, A.M., Bercu, A.-M., Bedrule-Grigoruta, M.V. & Boldureanu, D. 2020. Entrepreneurship education through successful entrepreneurial models in higher education institutions. *Sustainability*, 12:1-33. 10.3390/su12031267

Bosma, N., Hill, S., Ionescu-Somers, A., Kelley, D., Levie, J. & Tarnawa, A. 2020. *Global Entrepreneurship Monitor 2019/2020 Global Report*. London, United Kingdom: Global Entrepreneurship Research Association, L.B.S.

Botha, M., Nieman, G. & van Vuuren, J. 2007. Measuring the effectiveness of the women entrepreneurship programme on potential, start-up and established women entrepreneurs in South Africa. *South African journal of economic and management sciences*, 10(2):163-183.

Bourdieu, P. 1986. *The forms of capital. In: Handbook of Theory and Research for Sociology of Education*. https://www.socialcapitalgateway.org/content/paper/bourdieu-p-1986-forms-capital-richardson-j-handbook-theory-and-research-sociology-educ Date of access: 15 June 2022.

Bowey, J.L. & Easton, G. 2007. Net social capital processes. *Journal of Business & Industrial Marketing*, 22(3):171-177.

Britten, N., Campbell, R., Pope, C. & Morgan, M. 2002. Using meta ethnography to synthesise qualitative research: a worked example. Journal of Health Services Research & Policy, 7(4):209-215.

Brixiová, Z., Kangoye, T. & Said, M. 2020. Training, human capital, and gender gaps in entrepreneurial performance. *Economic Modelling*, 85:367-380. 10.1016/j.econmod.2019.11.006

Brush, C. & Green, P.G. 2021. *DIANA impact report 2020*: College, B. https://www.babson.edu/academics/centers-and-institutes/center-for-womens-entrepreneurial-leadership/diana-international-research-institute/ Date of access: 4 Jun. 2021.

Brush, C., Greene, P.G. & Welter, F. 2020. The Diana project: a legacy for research on gender in entrepreneurship. *International Journal of Gender and Entrepreneurship*, 12(1):18.

Buli, B.M. & Yesuf, W.M. 2015. Determinants of entrepreneurial intentions: Technical-vocational education and training students in Ethiopia. *Education and Training*, 57(8-9):891-907. 10.1108/ET-10-2014-0129

Bullough, A., Sully De Luque, M., Abdelzaher, D. & Heim, W. 2015. Developing women leaders through entrepreneurship education and training. *Academy of Management Perspectives*, 29(2):250-270. 10.5465/amp.2012.0169

Burrell, G. & Morgan, G. 1979. *Sociological paradigms and organizational analysis: elements of the sociology of corporate life*. Toronto, York University: Ashgate.

Burrell, G. & Morgan, G. 2005. *Sociological paradigms and organizational analysis: elements of the sociology of corporate life*. Aldershot, Hampshire: Ashgate Publishing Limited.

Cardow, A. & Smith, R. 2015. Using innovative pedagogies in the classroom Re-storying Gothic tales as entrepreneur stories. *Industry and Higher Education*, 29(5):361-374. 10.5367/ihe.2015.0268

Carranza, E., Dhakal, C. & Love, I. 2018. *Female entrepreneurs: how and why are they different?* Washington, U.S.A.

Centre-for-Review-and-Dissemination. 2009. *Systematic reviews: CRD's guidance for undertaking systematic reviews in healthcare*. Layerthorpe, York: York Publishing Services Ltd.

Charrouf, Y. & Janan, M.T. 2019. The use of a serious game in entrepreneurship teaching. *Education and Information Technologies*, 24(6):3841-3854. 10.1007/s10639-019-09958-4

Chenghao, J.I.N., Yinghua, L.U.O., Hu'nan, S.U.N., Guinan, S., Yinghao, H.A.N., Meihua, J.I.N. & Yanqing, Z. 2019. Development of college students' innovation and entrepreneurship ability under the model of personalized education. *Asian Agricultural Research*, 11(3):86-88. 10.19601/j.cnki.issnl943-9903.2019.3.019

Chesebro, J.W. & Borisoff, D.J. 2007. What makes qualitative research qualitative? Qualitative Research Reports in Communication, 8(1):3-14

Chinomona, E. & Maziriri, E.T. 2015. Women in action: challenges facing women entrepreneurs in the Gauteng province of South Africa. *International Business & Economics Research Journal*, 14(6):835-850.

Cohen, L., Manion, L., & Morrison, K. (2011). Research Methods in Education (7th ed.). London: Routledge.

Combs, J.P. & Onwuegbuzie, A.J. 2010. Describing and illustrating data analysis in mixed research. *International Journal of Education*, 2(2):1-13.

Connelly, L.M. 2016. Trustworthiness in qualitative research. *Medsurg Nursing*, 25(6):435-436.

Costello, G.J. 2017. More than just a game: the role of simulation in the teaching of product design and entrepreneurship to mechanical engineering students. *European Journal of Engineering Education*, 42(6):644-652. 10.1080/03043797.2016.1211992

Côté, J., Salmela, J.H. & Russell, S.J. 1993. Organizing and interpreting unstructured qualitative data. *The Sport Psychologist*, 7:127-137.

Coursera. 2021. *Goldman Sachs 10 000 Women*. https://www.coursera.org/collections/goldman-sachs-10000-women?utm_source=goldmansachs&utm_medium=institutions&utm_campaign=Google&utm_term=AllMkts&utm_content=SearchAd&mkwid=sjnFflcAG_dc_pcrid_530949722285_pkw_women%20entrepreneurship_pmt_p_pdv_c_slid__pgrid_119440019450_ptaid_kwd-263371986_&ptaid=kwd-263371986&gclid=CjwKCAjwz_WGBhA1EiwAUAxIcbSa3qH_dy20SftWKeZmmD45adVCQt6TmOcpOoIoX-gy9qTjyUnN1BoCk20QAvD_BwE&pgrid=119440019450./ Date of access: 4 Jul. 2021.

Creswell, J.W. 2009. *Reseach design qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, California: Sage.

Creswell, J.W. 2013. *Qualitative inquiry & research design: choosing among five approaches*. 3rd ed. Los Angeles: Sage Publications.

Cronin, P., Ryan, F. & Coughlan, M. 2008. Undertaking a literature review: a step-by-step approach. *British Journal of Nursing*, 17(1):38-43.

Cumming, D., Johan, S. & Zhang, M. 2014. The economic impact of entrepreneurship: comparing international datasets. *Corporate Governance: An International Review*, 22:18.

Czyzewska, M. & Mroczek, T. 2020. Data mining in entrepreneurial competencies diagnosis. *Education Sciences*, 10(8):1-17. 196. 10.3390/educsci10080196

Dargham, A. 2021. *Effectuation principles: a theory for entrepreneurs*. https://www.daacap.com/effectuation-principles-a-theory-for-entrepreneurs/ Date of access: 29 Jan. 2022.

Darmawati, D.M., Nadiroh, D.R. & Marini, A. 2020. Developing Entrepreneurship Education Model in Improving the Skills of Recycling of Elementary School Students. *Al Ibtida: Jurnal Pendidikan Guru MI*, 7(1):117-131. 10.24235/al.ibtida.snj.v7i1.5127

Davidsson, P. 2015. Can entrepreneurship be taught (II)? Further evidence. *Research Vignette*, ACE #044:2.

Davidsson, P. 2017. Can entrepreneurship be taught (III)? Even further evidence. *Research Vignette* ACE 056:3.

De Bruin, A., Brush, C.G. & Welter, F. 2006. Introduction to the special issue: towards building cumulative knowledge on women's entrepreneurship. *Entrepreneurship Theory & Practice*, 30(5):585-593. 10.1111/j.1540-6520.2006.00137.x

de Reuver, M., Bouwman, H. & Haaker, T. 2013. Business model roadmapping: A practical approach to come from an existing to a desired business model. *International Journal of Innovation Management*, 17(1):18. 10.1142/S1363919613400069

De Vos, A.S., Strydom, H., Fouche, C.B., & Delport, C.S.L. (2005), Research at Grass Roots Pretoria: Van Schaik Publishers.

DeCuir-Gunby, J.T., Marshall, P.L. & McCulloch, A.W. 2011. Developing and using a codebook for the analysis of interview data: an example from a professional development research project. *Field Methods*, 23:136-155.

Denzin, N.K. & Lincoln, Y.S. 2008. Introduction: the discipline and practice of qualitative research. In: Denzin, N.K. & Lincoln, Y.S., eds*. Strategies of qualitative inquiry*. United States: Sage Publications. pp. 1-43.

Department of Higher Education and Training. 2013. *White paper for post school education and training*. www.dhet.gov.za Date of access: 15 May. 2019.

Department of Higher Education and Training. 2018. *Fact sheet on "NEETs" (Persons who are not in employment, education or training)*. www.dhet.gov.za Date of access: 15 May. 2019.

Diandra, D. & Azmy, A. 2020. Understanding Definition of Entrepreneurship. *International Journal of Management, Accounting & Economics*, 7(5):235-241.

Doran, J., McCarthy, N. & O'Connor, M. 2018. The role of entrepreneurship in stimulating economic growth in developed and developing countries. *Cogent Economics & Finance*, 6(1):14. 10.1080/23322039.2018.1442093

Drucker, P.F. 1985. *Innovation and Entrepreneurship*. New York, United States.: Harper & Row,.

Duke Fuqua School of Business. 2021. *The entrepreneurial process*. https://sites.fuqua.duke.edu/dukeven/selected-topics/the-entrepreneurial-process/ Date of access: 16 Aug. 2021.

Dyer, W.G., West, B., Peacock, I., Yamada, S. & Dyer, J. 2016. Can the poor be trained to be entrepreneurs? The case of the academy for creating enterprise in Mexico. *Journal of Developmental Entrepreneurship*, 21(2):1-22. 1650008. 10.1142/s1084946716500084

Eddleston, K., Ladge, J.J., Mitteness, C. & Balachandra, L. 2016. Do you see what I see? Signalling effects of gender and firm characteristics on financing entrepreneurial ventures. *Entrepreneurship, Theory and Practice*, 40(3):489-514.

Elo, J. 2016. The benefits and challenges of enterprise education: results from an action research project in the third grade in Finnish basic education. *Educational Action Research*, 24(4):535-549. 10.1080/09650792.2015.1113886

Enactus-SA. 2018. *About Enactus South Africa*. http://www.enactusza.org/ Date of access: 4 May 2018.

Entrepreneurship Development in Higher Education. 2022. EDHE. https://edhe.co.za/about/ Date of access: 4 Jun. 2022.

Entrialgo, M. & Iglesias, V. 2017. Are the intentions to entrepreneurship of men and women shaped differently? the impact of entrepreneurial role-model exposure and entrepreneurship education. *Entrepreneurship Research Journal*, 8(1):1-14. 20170013. 10.1515/erj-2017-0013

Eriksson, P. & Kovalainen, A. 2008. *Qualitative methods in business research*. London, UK: SAGE.

Euchner, J. & Ganguly, A. 2014. Business model innovation in practice. *Research Technology Management*, 57(6):33-39. 10.5437/08956308X5706013

Farber, V.A., Priale, M.A. & Fuchs, R.M. 2015. An entrepreneurial learning exercise as a pedagogical tool for teaching CSR A Peruvian study. *Industry and Higher Education*, 29(5):345-360. 10.5367/ihe.2015.0269

Fayolle, A. 2013. Personal views on the future of entrepreneurship education. *Entrepreneurship and Regional Development*, 25(7-8):692-701. 10.1080/08985626.2013.821318

Fayolle, A. & Gailly, B. 2012. From craft to science: teaching models and learning processes in entrepreneurship education. *Institute of Electrical and Electronics Engineers Engineering Management Review Journal* 40(2):569-593. 10.1109/EMR.2012.6210520

Fayolle, A., Lamine, W., Mian, S. & Phan, P. 2020. Effective models of science, technology and engineering entrepreneurship education: current and future research. *Journal of Technology Transfer*, 10.1007/s10961-020-09789-3

Felder, R.M., Woods, D.R., Stice, J.E. & Rugarcia, A. 2000. The future of engineering education: teaching methods that work. *Chemical Engineering Education*, 34(1):26-39.

Feng, L., Jiangshui, M. & Ran, L. 2019. Which role model is more effective in entrepreneurship education? An investigation of storytelling on individual's entrepreneurial intention. *Frontiers in Psychology*, 10, 10.3389/fpsyg.2019.00837

Filion, L.J. 1997. From entrepreneurship to entreprenology: the emergence of a new discipline. *Journal of Enterprising Culture*, 6(1):1-24.

Foss, N.J. & Klein, P.G. 2014. Why managers still matter. *MIT Sloan Management Review*, 56(1):73-83.

Galloway, L., Kelly, S. & Keogh, W. 2005. *Identifying entrepreneurial potential in students*. Paper presented at the National Conference for Small Business and Entrepreneurship,, United Kingdom, Blackpool. https://www.researchgate.net/publication/253069412_Identifying_entrepreneurial_potential_in_students Date of access: 13 Oct. 2021.

Galvão, A., Marques, C. & Ferreira, J.J. 2020. The role of entrepreneurship education and training programmes in advancing entrepreneurial skills and new ventures. *European Journal of Training & Development*, 44(6/7):595-614. 10.1108/EJTD-10-2019-0174

García-Rodríguez, F.J., Gutiérrez-Taño, D. & Ruiz-Rosa, I. 2017. The business model approach in entrepreneurship education: impact on undergraduates' enterprise potential. *Mediterranean Journal of Social Sciences*, 8(3):11-17.

Gartner, W.B. 1988. Who is the entrepreneur? is the wrong question. *American Journal of Small Business*, 12(4):21.

Gatewood, E., Brush, C., Carter, N., Greene, P. & Hart, M. 2009. Diana: a symbol of women entrepreneurs' hunt for knowledge, money, and the rewards of entrepreneurship. Small Business Economics, 32(2):129-144. 10.1007/s11187-008-9152-8

Gibb, A.A. 1993. Enterprise culture and education: understanding enterprise education and its links with small business, entrepreneurship and wider educational goals. *International Small Business Journal*, 11(3):11-34. 10.1177/026624269301100301

GIBS. 2021. Entrepreneurship Development Academy (EDA) https://www.gibs.co.za/about-us/centres/entrepreneurship-development-academy/Pages/default.aspx Date of access: 4 June.

Glaeser, E.L., Kerr, S.P. & Kerr, W.R. 2015. Entrepreneurship and urban growth: an empirical assessment with historical mines. *The Review of Economics and Statistics*, 97(2):22.

Glaser, B.G. 1965. The comparative method of qualitative analyses. *Social Problems*, 12(4):10.

Combs, J.P. & Onwuegbuzie, A.J. 2010. Describing and illustrating data analysis in mixed research. International Journal of Education, 2(2):1-13

Goldman Sachs. 2021. *10 000 Women initiative*. https://www.goldmansachs.com/citizenship/10000women/# Date of access: 4 Jun. 2021.

Gorsky, E. 2021. *What is the difference between skill and knowledge-based learning?* https://www.opencolleges.edu.au/blog/2020/04/27/what-is-the-difference-between-skill-and-knowledge-based-learning/ Date of access: 20 Aug. 2021.

Greene, P.G., Hart, M.M., Gatewood, E.J., Brush, C.G. & Carter, N.M. 2003. Women entrepreneurs: moving front and centre: an overview of research and theory. *Coleman White Paper Series*, 3(1):1-47.

Guba, E.G. & Lincoln, Y. 1994. Competing paradigms in qualitative research. In. *In N. Denzin & Y. Lincoln (Eds.), Handbook of qualitative research*. Thousand Oaks, CA: Sage.

Guo, H. & Zhao, J. 2013. The role of top managers' human and social capital in business model innovation. *Chinese Management Studies*, 7(3):23. 10.1108/CMS-03-2013-0050

Gupta, V.K., Turban, D.B. & Pareek, A. 2012. Differences between men and women in opportunity evaluation as a function of gender stereotypes and stereotype activation. *Entrepreneurship Theory and Practice*, 37(4):771-788.

Heikkinen, K.P. & Stevenson, B. 2016. The LAB studio model: enhancing entrepreneurship skills in higher education. *International Journal of Innovation and Learning*, 20(2):154-168. 10.1504/IJIL.2016.077846

Henry, C. & Treanor, L. 2012. Exploring entrepreneurship education within veterinary medicine: can it be taught? *Journal of Small Business and Enterprise Development*, 19(3):484-499. 10.1108/14626001211250171

Henry, C., Hill, F. & Leitch, C. 2005a. Entrepreneurship education and training: can entrepreneurship be taught? Part II. *Education + Training*, 47(3):158-169. doi:10.1108/00400910510592211

Henry, C., Hill, F. & Leitch, C. 2005b. Entrepreneurship education and training: can entrepreneurship be taught? Part I. *Education + Training*, 47(2),

Herrington, M. & Kew, P. 2018. *Global Entrepreneurship Monitor, South Africa 2017/18: Is there a change in attitude towards the small and medium business sector in South Africa*. Cape Town, South Africa: Town, U.o.C.

Herrington, M., Kew, P. & Mwanga, A. 2017. *Global entrepreneurship monitor, South Africa report 2016/2017: can small business survive in South Africa?* Cape Town: South Africa: Town, U.o.C.

Heylighen, F.H. 1992. A cognitive -systemic reconstruction of Maslow's theory of self-actualization. *Behavioral Science*, 37:39-57.

Hisrich, R.D. & Peters, M.P. 2002. *Entrepreneurship*. 4th ed. Boston, MA. United States: Irwin McGraw-Hill.

Ho, M.R., Uy, M.A., Kang, B.N.Y. & Chan, K. 2018. Impact of entrepreneurship training on entrepreneurial efficacy and alertness among adolescent youth. *Frontiers in Education*, 3(13), 10.3389

Hussain, M.A., Elyas, T. & Naseef, O.A. 2013. Research paradigms: a slippery slope for fresh researchers. *Life science journal*, 10(3):2374-2381.

Iglesias-Sánchez, P.P., Jambrino-Maldonado, C. & de las Heras-Pedrosa, C. 2019. Training entrepreneurial competences with open innovation paradigm in higher education. *Sustainability (Switzerland)*, 11(17):1-23. 4689. 10.3390/su11174689

Jack, S.L. & Anderson, A.R. 1999. Entrepreneurship education within the enterprise culture: producing reflective practitioners. *International Journal of Entrepreneurial Behaviour and Research*, 5(3):110-125.

Jamaluddin, R., Ali, M.H., Kadir, S.A. & Kamis, A. 2019. Impact of fashion entrepreneurship programme on entrepreneurial interests, intention and competencies. *Journal of Technical Education and Training*, 11(1):119-128. 10.30880/jtet.2019.11.01.15

Jayeoba, F.I. 2015. Entrepreneurial intention and entrepreneurial abilities. *Ife PsychologIA 2015*, 23(1):219-229.

Jesar, H. 2015. *Can entrepreneurship be taught? Case: the lean start-up.* Helsinki Metropolia University of Applied Sciences. Date of access: 2 Jun. 2020.

Johannisson, B. & Nilsson, A. 1989. Community entrepreneurs: networking for local development. *Entrepreneurship and Regional Development*, 1(1):16.

Kelley, D.J., Baumer, B.S., Brush, C., Greene, P.G., Mahdavi, M., Cole, M.M.M., ... Heavlow, R. 2017. *Global Entrepreneurship Monitor 2016/2017 Report on Women's Entrepreneurship*. Boston, United States: Babson College, S.C.a.t.G.E.R.A.G.

Khatri, K.K. 2020. Research paradigm: a philosophy of educational research. International Journal of English Literature and Social Sciences, 5(5):1435-1440.

Kirzner, I. 1973. *Competition and entrepreneurship*. Chicago, IL: University of Chicago Press.

Kitchenham, B. 2004. *Procedures for performing systematic reviews*: Eversleigh, NSW: Software Engineering Group Department of Computer Science, Keele: United Kingdom: Keel University.

Kitchenham, B. 2007. *Guidelines for performing Systematic Literature Reviews in Software Engineering*. United Kingdom: University, K.

Kitchenham, B., Brereton, O.P., Budgen, D., Turner, M., Bailey, J. & Linkman, S. 2009. Systematic literature reviews in software engineering – A systematic literature review. *Information and Software Technology*, 51:7-15.

Kothari, C.R. 2004. Research methodology: methods and techniques. 2nd ed. New Delhi: New Age International

Koubova, V. & Buchko, A.A. 2013. Life-work balance. An emotional intelligence as a crucial component of achieving both personal life and work performance. *Management Research Review*, 26:700-719.

Koyana, S. & Mason, R.B. 2017. Rural entrepreneurship and transformation: the role of learnerships. *International Journal of Entrepreneurial Behaviour & Research*, 23(5):734-751. 10.1108/ijebr-07-2016-0207

Li, F.J., Larimo, J. & Leonidou, L.C. 2021. Social media marketing strategy: definition, conceptualization, taxonomy, validation, and future agenda. *Journal of the Academy of Marketing Science*, 49:51-70.

Li, J. 2011. An introduction of teaching model for entrepreneurship education. In. International Conference on Management and Service Science. Wuhan, China.: Institute of Electrical and Electronics Engineers. pp. 1-4.

Li, K. 2010. *An introduction to a new entrepreneurship education method—Camp Model*. Paper presented at the The 2nd International Conference on Information Science and Engineering, Hangzhou, China., 4 Dec 2010. https://nwulib.nwu.ac.za/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edseee&AN=edseee.5691390&site=eds-live https://ieeexplore.ieee.org/document/5691390/ Date of access: 15 Feb. 2021.

Lima, M. & Baudier, P. 2017. Business model canvas acceptance among French entrepreneurship students: principles for enhancing innovation artefacts in business education. *Journal of Innovation Economics & Management*, 23:159-183. 10.3917/jie.pr1.0008

Liñán, F. 2004. Intention based models of entrepreneurship education. *Piccola Impresa / Small Business*, (2004):11-35.

Lindberg, E., Bohman, H., Hulten, P. & Wilson, T. 2017. Enhancing students' entrepreneurial mindset: a Swedish experience. *Education and Training*, 59(7-8):768-779. 10.1108/et-09-2016-0140

Long, W. 1983. The meaning of entrepreneurship. *American Journal of Small Business*, 8(2):47-59.

Lourenço, F. & Jayawarna, D. 2011. Enterprise education: the effect of creativity on training outcomes. *International Journal of Entrepreneurial Behaviour & Research*, 17(3):224-244. 10.1108/13552551111130691

Lutkevich, B. 2020. *Definition: Framework*. https://whatis.techtarget.com/definition/framework Date of access: 23/8/2021.

Mack, L. 2010. The philosophical underpinnings of educational research. *Polyglossia*, 19:1-11.

Mackenzie, N. & Knipe, S. 2006. Research dilemmas: paradigms, methods and methodology. *Issues In Educational Research*, 16(2):193-205.

Manolova, T.S., Brush, C.G. & Edelman, L.F. 2008. What do women entrepreneurs want? *Strategic Change*, 17:69-82.

Maritz, A. & Foley, D. 2018. Expanding Australian Indigenous entrepreneurship education ecosystems. *Administrative Sciences*, 8(2), 20. 10.3390/admsci8020020

McClelland, A. 2005. Reduction of vividness and associated craving. *Journal of Clinical Psychology*, 63(3):355-366.

McMillan, J.H. & Schumacher, S. 2014. *Research in education, evidence based inquiry*. 7th ed. England: Pearson.

Mele, C., Pels, J. & Polese, F. 2010. A brief review of systems theories and their managerial applications. *Service Science,*, 2(1-2):126-135.

Merriam, S.B. 2009. *Qualitative research: a guide to design and implementation*. 2nd ed. United States of America: Jossey-Bass.

Merriam, S.B. & Tisdell, E.J. 2016. *Qualitative research: a guide to design and implementation*. 4th ed. San Francisco, CA: Jossey-Bass.

Metcalfe, R. 2013. Can entrepreneurship be taught? *Texas education review*, 1:12.

Meyer, N. & Landsberg, J. 2015. Motivational factors influencing women's entrepreneurship: a case study of female entrepreneurship in South Africa. *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial engineering*, 9(11):3864-3869.

Michaelsen, L.K. & Sweet, M. 2008. The essential elements of team-based learning. *New Directions for Teaching and Learning*, 2008(116):7-27.

Mohan, S. & Revathi, R. 2012. Impact of training on entrepreneurial development. *International Journal of Engineering and Management*, 2(6):1-6.

Mokaya, S.O., Namusonge, M. & Sikalieh, D. 2012. The concept of entrepreneurship; in pursuit of a universally acceptable definition. *International Journal of Arts and Commerce*, 1(6):8.

Moore, D.P., Moore, J.L. & Moore, J.W. 2011. How women entrepreneurs lead and why they manage that way. *Gender in Management: An International Journal*, 26(3):220-233.

Morgan, G. 2016. *Strenghts and weaknesses of qualitative research*. https://www.healthknowledge.org.uk/public-health-textbook/research-methods/1d-qualitative-methods/principles-qualitative-methods-exercise2answers Date of access: 20 Dec. 2021.

Mueller, J., Wyatt, R., Klandt, H. & Tan, W.L. 2005. Can entrepreneurship be taught in an action-learning format? We compare entrepreneurship action learning outcomes for undergraduate

students in Germany, Singapore, China, Korea, New Zealand, United States and Australia. *Journal of Asia Entrepreneurship and Sustainability*, 1:28.

Mwasalwiba, E.S. 2010. Entrepreneurship education: a review of its objectives, teaching methods, and impact indicators. *Education and Training*, 52(1):20-47.

Naidoo, V. & Wu, T. 2014. Innovations in marketing of higher education: foreign market entry mode of not-for profit universities. *Journal of Business & Industrial Marketing and Management of Innovations*, 29(6):546-558.

Nambiar, Y., Sutherland, M. & Scheeprers, C.B. 2020. The stakeholder ecosystem of women entrepreneurs in South African townships. *Development Southern Africa*, 37(1):16.

Naresh, D. 2021. *Strenghts and limitations of qualitative research*. https://invoke.com/blog/strengths-and-limitations-of-qualitative-research Date of access: 20 Dec. 2021.

Naudé, W. 2009. Entrepreneurship, developing countries, and development economics: new approaches and insights. *Small Business Economics*, 34(1):1. 10.1007/s11187-009-9198-2

Neck, H.M. & Greene, P.G. 2011. Entrepreneurship education: known worlds and new frontiers. *Journal of Small Business Management*, 49(1):55-70.

Neck, H.M., Greene, P.G. & Brush, C.G. 2014. Practice-based entrepreneurship education using actionable theory. *Political Science*:1-18. 10.4337/9781783471454.00008

Neuman, L.W. 2011. *Social research methods, qualitative and quantitative approaches*. 7th ed. Wisconsin, United States: Pearson.

Nieman, G. & Nieuwenhuizen, C. 2009. *Entrepreneurship: A South African perspective*. 2nd edition. Pretoria: van Schaik Publishers.

Nugraheni, T., Budiman, A. & Sukmayadi, Y. 2019. Entrepreneurship and art education tourism: a study on results of management skills training program for students. *Harmonia: Journal of Arts Research & Education*, 19(2):193-203. 10.15294/harmonia.v19i2.22674

Núñez Ladeveze, L. & Núñez Canal, M. 2016. Notion for entrepreneurship in school entrepreneurial skills training. *Revista Latina de Comunicacion Social*, 71:1068-1089. 10.4185/RLCS-2016-1135

NWU (North-West University). 2017. *Teaching and learning strategy 2016 - 2020*: North-West University. http://www.nwu.ac.za

NWU (North-West University). 2021. *bhive EDC - Enterprising Women Programme*. https://commerce.nwu.ac.za/bhive/ewp Date of access: 4 Jun. 2021.

O'Neill, A. 2021a. *BRIC countries: Growth rate of the real gross domestic product (GDP) from 2015 to 2025 (compared to the previous year)*. https://www.statista.com/statistics/741729/gross-domestic-product-gdp-growth-rate-in-the-bric-countries/ Date of access: 14 May. 2021.

O'Neill, A. 2021b. *United Kingdom: real gross domestic product (GDP) growth rate from 2015 to 2025 (compared to the previous year)*. https://www.statista.com/statistics/263613/gross-domestic-product-gdp-growth-rate-in-the-united-kingdom/ Date of access: 14 May. 2021.

O'Neill, A. 2021c. *Real gross domestic product (GDP) growth rate in the United States from 2015 to 2025 (compared to the previous year)* https://www.statista.com/statistics/263614/gross-domestic-product-gdp-growth-rate-in-the-united-states/ Date of access: 14 May. 2021.

O'Neill, R. & Viljoen, L. 2011. Support for female entrepreneurs in South Africa: improvement or decline? *Journal of Family Ecology and Consumer Sciences*, 29:37-44.

Osorio, A.E. & Cordero, J.A. 2014. Entrepreneurship education in practice: the development of a hybrid training model in an urban environment. In: Hoskinson, S. & Kuratko, D.F., eds*. Innovative Pathways for University Entrepreneurship in the 21st Century*. 24. Bingley, United Kingdom: Emerald Group Publishing Limited. pp. 171-208.

Osterwalder, A. & Pigneur, Y. 2010. *Business model generation: a handbook for visionaries, game changers and challengers*. Hoboken, New Jersey: John Wiley and Sons, Inc.

Palalic, R., Ramadani, V. & Dana, L.P. 2017. Entrepreneurship in Bosnia and Herzegovina: focus on gender. *European Business Review*, 29(4):20. 10.1108/EBR-05-2016-0071

Parreira, P.M., Pereira, F.C., Arreguy-Sena, C., Salgueiro-Oliveira, A., Tosoli, A.M.G., Marques, S.C., . de Oliveira, D.C. 2015. Social representations of entrepreneurship: the role of training in the acquisition of entrepreneurial skills. *RIASE*, 1(3):248-266.

Peterman, N.E. & Kennedy, J. 2003. Enterprise education: influencing students perceptions of entrepreneurship. *Entrepreneurship Theory and Practice*, 28(2):129-144.

Phillips, M., Moos, M. & Nieman, G. 2014. The impact of government support initiatives on the growth of female businesses in Tshwane South Africa. *Mediteranian Journal of Social Sciences*, 5(15):85-92.

Pinchot, G. 1985. *Intrapreneuring: Why you don't have to leave the organization to become a entrepreneur*. New York, NY: Harper & Row.

Portovaras, T., Harbar, Z., Sokurenko, I. & Samoilyk, I. 2020. Management of small business entities. *Independent Journal of Management & Production*, 11(8):15.

Putta, S.S. 2014. Improving entrepreneur's management skills through entrepreneurship training. *Journal of Commerce & Management Thought*, 5(3):459-474. 10.5958/0976-478X.2014.00334.6

Quach, S., Weaven, S., Thaichon, P., Grace, D. & Frazer, L. 2020. A model of entrepreneurship education in franchising - application of outside-in marketing with a behavioural focus. *Journal of Business & Industrial Marketing*, 35(1):116-133. 10.1108/jbim-07-2018-0210

Queirós, A., Faria, D. & Almeida, F. 2017. Strenghts and limitations of qualitative and quantitative research methods. *European Journal of Education Studies*, 3(9):18. 10.5281/zenodo.887089

Reavley, M.A. & Lituchy, T.R. 2008. Successful women entrepreneurs: a six-country analysis of self-reported determinants of success - more than just dollars and cents. *International Journal of Entrepreneurship and Small Business*, 5(3/4):272-296.

Ries, E. 2011. *The lean startup: how today's entrepreneurs use continuous innovation to create radically successful businesses*. New York, USA: Crown Business, an imprint of the Crown Publishing Group, a division of Random House, Inc.

Rodríguez-López, Á. & Souto, J.E. 2019. Empowering entrepreneurial education using undergraduate dissertations in business management and entrepreneurship: a five-year study (2012–2016). *Education and Training*, 61(2):255-271. 10.1108/ET-07-2018-0160

Romani, L., Mahadevan, J. & Primecz, H. 2018. Critical cross-cultural management: outline and emerging contributions. *International Studies of Management & Organisation*, 48(4):403-418.

Sai, X., Kenayathulla, H.B. & Saedah, S. 2019. A model for youth entrepreneurship skills of the community-based leadership training for the urban youth in China. *Malaysian Online Journal of Educational Management*, 7(3):80-98.

Sajid, S.I. 2016. Social media and its role in marketing. *Business and Economics Journal*, 7(1):1-5.

Santos, G., Marques, C.S. & Ferreira, J.J.M. 2018. What are the antecedents of women's entrepreneurial orientation? *International Entrepreneurship and Management Journal*, 14(4):807-821. 10.1007/s11365-017-0481-4

Santos, S.C., Caetano, A., Spagnoli, P., Costa, S.F. & Neumeyer, X. 2017. Predictors of entrepreneurial activity before and during the European economic crises. *International Entrepreneurship and Management Journal*, 13(4):25. 10.1007/s11365-017-0453-8

Sarasvathy, S.D. & Venkataraman, S. 2011. Entrepreneurship as method: open questions for an entrepreneurial future. *Entrepreneurship Theory and Practice*, 35(1):113-135. 10.1111/j.1540-6520.2010.00425.x

Schein, V. 2001. A global look at psychological barriers to women's progress in management. Journal of Social Issues, 57:675-688.

Schumpeter, J.A. 1983. *The theory of economic development: an inquery into profits, capital, credit, interest and the business cycle*. Translated by Opie, R. New Bruswick, New Jersey: Transaction Publishers.

Schwandt, T.A. 2001. Three epistemological stances for qualitative inquiry, Interpretevism, Hermeneutics and Social Constructionism. In: Denzin, N.K. & Lincoln, Y.S., eds*. Handbook of Qualitative Research*. 2nd ed. United States: SAGE Publishing.

Scott, S. & Venkataraman, S. 2000. The promise of entrepreneurship as a field of research. *The Academy of Management Review*, 25:9.

Seikkula-Laino, J., Ruskovaara, E., Ikavalko, M., Mattila, J. & Rytkola, T. 2010. Promoting entrepreneurship education: the role of the teacher? *Education and Training*, 52(2):117-127.

Seo, E. & Park, J. 2018. A study on the effects of social media marketing activities on brand equity and customer response in the airline industry. *Journal of Air Transport Management*, 66:36-41.

Sherkat, A. & Chenari, A. 2020. Assessing the effectiveness of entrepreneurship education in the universities of Tehran province based on an entrepreneurial intention model. *Studies in Higher Education*:1-19. 10.1080/03075079.2020.1732906

Silver, C. & Lewins, A. 2014. Using software in qualitative research: A step-by-step guide. 2nd. Los Angeles: Sage Publications.

Singer, S., Herrington, M. & Menipaz, E. 2018. *Global entrepreneurship monitor, global report, 2017/2018*. United States: College, B.

Skyepack. 2020. *Curriculum development: complete overview & 6 steps*. https://www.skyepack.com/post/curriculum-development Date of access: 17 Aug. 2021.

Spinelli, S.J. & Adams, R.J.J. 2016. *New venture creation - entrepreneurship for the 21st century*. 10th ed. New York, United States: Mc Graw Hill Education.

Stam, E. & van Stel, A.J. 2009. *Types of entrepreneurship and economic growth*: (UNU-WIDER), T.U.N.U.W.I.f.D.E.R. Date of access: 4 Jun. 2021.

Statistic how to. 2014. *Cohen's kappa statistic*. http://www.statisticshowto.com/cohens-kappa-statistic/ Date of access: 17 Jul. 2018.

StatisticsSA. 2017. *GDP in the first quarter of 2017*. http://www.statssa.gov.za/?p=10005 Date of access: 19 Aug. 2017.

StatisticsSA. 2020a. *Gross domestic product: Fourth quarter 2019*. http://www.statssa.gov.za/?page_id=1854&PPN=P0441&SCH=7695 Date of access: 25 Mar. 2020.

StatisticsSA. 2020b. *Quarterly labour force survey quarter 4: 2019*. http://www.statssa.gov.za/?page_id=1854&PPN=P0211&SCH=7622 Date of access: 25 Mar. 2020.

StatisticsSA. 2021a. Quarterly labour force survey - Quarter 4:2020. 138, P0211.

StatisticsSA. 2021b. Gross domestic product - Fourth quarter 2020. Statistical Release:24, P0441.

Stephan, U. & Uhlaner, L.M. 2010. Performance-based vs socially supportive culture: a cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies*, 41(8):17.

Stephens, H.M., Partridge, M.D. & Faggian, A. 2013. Innovation, entrepreneurship and economic growth in lagging regions. *Journal of regional science.*, 53(5):35.

Strangl, A., Farley, K., Sievwright, K., Brady, L. & Fritz, K. 2015. *Enhancing women's entrepreneurship in Kenya: initial qualitative assessment of the ILO's GET Ahead business training programme*. Geneva: Office, I.L.

Stutt, A. 2021. *Curriculum development and the 3 models* https://tophat.com/blog/curriculum-development-models-design/ Date of access: 16 Aug. 2021.

Sun, X. 2020. Exploration and practice of "internet + maker education" university innovative entrepreneurship education model from the perspective of positive psychology. *Frontiers in Psychology*, 11, 10.3389/fpsyg.2020.00891

Sutevski, D. 2021. *7 Standard action steps to business success*. https://www.entrepreneurshipinabox.com/2046/business-success-in-7-steps/ Date of access: 16 Aug. 2021.

Swarnalatha, A. & Vasantha, K. 2014. Impact of skill training programmes on women entrepreneurship. *Indian Journal of Health & Wellbeing*, 5(1):9-13.

Teece, D.J. 2010. Business models, business strategy and innovation. *Long Range Planning*, 43(2):172-194. 10.1016/j.lrp.2009.07.003

Tesch, R. 1990. *Qualitative research. Analyses types and software tools*. London: Falmer Press.

Ting, S.X., Feng, L. & Qin, W. 2017. The effect of entrepreneur mentoring and its determinants in the Chinese context. Management Decision, 55(7):1410-1425. 10.1108/MD-07-2016-0477

Tonex. 2021. *Women entrepreneurship training*. https://www.tonex.com/training-courses/women-entrepreneurship-training/ Date of access: 4 Jul. 2021.

Udemy. 2021. *Women, start your own business! Entrepreneurship Course!* https://www.udemy.com/course/60-day-female-entrepreneur-start-your-business-in-60-days/?utm_source=adwords&utm_medium=udemyads&utm_campaign=DSA_Catchall_la.EN_cc.ROW&utm_content=deal4584&utm_term=_._ag_88010211481_._ad_437497337004_._kw__._de_c_._dm__._pl__._ti_dsa-41250778272_._li_1028693_._pd__._&matchtype=b&gclid=CjwKCAjwz_WGBhA1EiwAUAxIcbtAX2lFGbZJbvw2BIAeLjdH0qcYTmP3EHbbNcolWk-r0cq6E2qR2xoCqfAQAvD_BwE Date of access: 4 Jun. 2021.

UNFPA., U.n.p.f. 2005. Frequently asked questions about gender equality. https://www.unfpa.org/resources/frequently-asked-questions-about-gender-equality Date of access: 1 June 2022.

Van Vuuren, J.J. & Groenewald, D. 2007. A critical analysis of the influence of start-up factors in small businesses and entrepreneurial ventures in SA. *Acta Commercii*, 7(1):269-280.

Vanevenhoven, J. 2013. Advances and challenges in entrepreneurship education. *Journal of Small Business Management*, 51(3):466-470. 10.1111/jsbm.12043

Volery, T., Oser, F.K., Müller, S., Näpflin, C. & Del Rey, N. 2014. Can entrepreneurship be taught to vocational students? An intervention study. In: al., S.W.e., ed. *Becoming an Entrepreneur*. Munich, Germany: Sense Publishers. pp. 161-176.

Wahyuningsih, S.E., Sugiyo, Samsudi, S., Widowati, T. & Kamis, A. 2018. Model of local excellence-based on entrepreneurship education management for prospective vocational school teachers. *International Journal of Innovation and Learning*, 24(4):448-461. 10.1504/ijil.2018.095383

Wang, J. & Chen, C. 2013. The construction of "the whole-course and personalized" comprehensive entrepreneurship education model. In. 6th International Conference on Information Management, Innovation Management and Industrial Engineering. Institute of Electrical and Electronics Engineers. pp. 45-50.

Wang, J., Yang, Y. & Xia, B. 2019. A simplified Cohen's kappa for use in binary classification data annotation tasks. *IEEE Access*, 7:164386-164397.

Wang, T. 2016. The design and implementation of the virtual network platform of university entrepreneurship education based on b/s model. *2016 International Conference on Intelligent Transportation, Big Data and Smart City*:281-284. 10.1109/ICITBS.2016.110

Watson, K. & McGowan, P. 2019. Rethinking competition-based entrepreneurship education in higher education institutions Towards an effectuation-informed coopetition model. *Education and Training*, 62(1):31-46. 10.1108/et-11-2018-0234

WBEC. 2021. *Entrepreneurial Courses*. https://wbeceast.com/entrepreneurial_courses/ Date of access: 4 Jun. 2021.

WEC. 2021. *Western economic diversification Canada*. https://www.womensenterprise.ca/business-skills-training-women/ Date of access: 4 Jun. 2021.

Weiss, A. 2002. A brief guide to competitive intelligence: how to gather and use information on competitors. *Business Information Review*, 19(2):39-47.

Welman, C., Kruger, S.J. & Mitchell, B. 2005. *Research methodology*. 3rd ed. Cape Town, South Africa: Oxford University Press.

Yang, J., Jin, X. & Zhou, L. 2018. Research on factors influencing university students' entrepreneurial intention and model of entrepreneurship education. In. 9th International Conference on Information Technology in Medicine and Education. IEEE. pp. 567-571.

Zeng, Z. & Honig, B. 2016. How should entrepreneurship be taught to students with diverse experience? a set of conceptual models of entrepreneurship education. In: Katz, J.A. & Corbett, A.C., eds. *Models of Start-up Thinking and Action: Theoretical, Empirical and Pedagogical Approaches*. 18. Bingley, United Kingdom: Emerald Group Publishing Limited. pp. 237-282.

Zheng, W.Z., Xu, M.M., Chen, X.C. & Dong, Y. 2017. Who is shaping entrepreneurial experience? A multiple case study of Chinese entrepreneurial learning. *Management Decision*, 55(7):1394-1409. 10.1108/md-06-2016-0370

Zheng, X., Liu, E. & Cui, Y. 2009. Can entrepreneurship be taught? The approach to teaching entrepreneurship. In. International Workshop on Intelligent Systems and Applications, ISA 2009, Wuhan, China. Institute of Electrical and Electronics Engineers (IEEE). pp. 1-4.

Zhou, Y.Y. & Wu, L.L. 2019. Extension priority evaluation extension model for quality evaluation of innovation and entrepreneurship education. *Journal of Advanced Computational Intelligence and Intelligent Informatics*, 23(2):242-247. 10.20965/jaciii.2019.p0242

Zhu, Y., Rooney, D. & Phillips, N. 2016. Practice-Based Wisdom Theory for Integrating Institutional Logics: A New Model for Social Entrepreneurship Learning and Education. Academy Of Management Learning & Education, 15(3):607-625. 10.5465/amle.2013.0263

ANNEXURES

ANNEXURE 1: SYSTEMATIC LITERATURE REVIEW – IDENTIFIED CODES

#	Key Words	Definition
1	Entrepreneurship Education (including the art and science of entrepreneurship)	A collection of formalised teaching that educates, informs and trains anyone that is interested in becoming an entrepreneur or just want to learn more about the subject. Entrepreneurship is considered an art because it is a combination of creativity and the ability to create something innovative. Entrepreneurs must have an artistic vision and approach business opportunities with imagination. Entrepreneurship is both and Art and a Science. The Science of Entrepreneurship refer to teaching the management skills required to successfully run and grow a business.
2	Entrepreneurial Process, Entrepreneurial Teaching & Training	The Entrepreneurial Process is the steps that an entrepreneur takes in order to create a new business. The Entrepreneurial Process can be divided into four phases: (1) Identify and evaluate the business opportunity, (2) develop a business plan or model, (3) establish and evaluate the resources required, (4) Company formation and Growth Entrepreneurial Teaching refer to passing on the required skills and knowledge to aspiring entrepreneurs. Entrepreneurship Training take a person through the processes required to start and run a business. The training includes business skills and entrepreneurial skills training.
3	Entrepreneurship Education & Teaching Framework / Model Development	A framework is a conceptual structure that is intended to serve as a support for building an entrepreneurship education platform. A systematic framework of entrepreneurship education is needed as a structured guideline to conduct the mapping of existing learning and institutional supports. The framework covers all stakeholders, such as students, staff members, and the institution, in managing entrepreneurship education effectively (Piper, 1993). It needs to involve all important aspects that support the students to become entrepreneurs, either supports from staff members or supports from the institution (Herrmann, Hannon, Cox, Ternouth, & Crowley, 2008) A Teaching framework is a research based model that is used for course design that support teachers to align learning goals with classroom activities, to create motivating and inclusive environment and to assimilate assessment into the learning process.

#	Key Words	Definition
		An Entrepreneurship Education Model is a structure or layout of constructs that form the framework of an entrepreneurship education intervention. The model includes all the training elements that are presented when the training is carried out. Model Development is an iterative process whereby many models are developed, tested and developed upon until a model that fitting the desired criteria is developed. Any successive modelling work will most probably start at the same place that the original model started, not where it ended.
4	Entrepreneurship and Curriculum Development - (Include business training aspect)	Enhancing the skills and knowledge of entrepreneurs through different types of programmes. Can be described as the step-by-step process to create positive improvements in a training course. Business management skills are a collection of abilities like: problem-solving, decision-making, planning, communication, delegation, marketing, market research, customer discovery, customer service, financial management and time management that is required to run a business successfully.
5	Continuous Entrepreneurial Learning	Is the process of always expanding your knowledge to gain new expertise and skills.
6	Knowledge and evidence-based model for entrepreneurial training and development	Knowledge-based entrepreneurial model focus on the ability to create or recognise an opportunity focussed on an innovative product or innovative knowledge product. Knowledge entrepreneurship focus on the opportunity with the goal to improve the production or knowledge in general, rather than a focus on maximising profit. Evidence based education refer to effective educational strategies that is supported by research and evidence.
7	Personalised entrepreneurial training and development for unique groups	Personalised Education is an educational method that aims to customise the learning experience for each student's needs, skills, strengths and interests. Each students learning plan is developed based on what they know and how they learn best. Unique groups require personalised education, for example: Research has shown that Female Entrepreneurs are still behind the male entrepreneurs. Female entrepreneurs require additional support in areas like confidence and self-esteem when compared to male entrepreneurs.
8	Entrepreneurship Skills	Entrepreneurship skills include: creativity, innovation, the ability to take risk (calculated risk), plan and manage projects, business management skills, communication skills, teamwork and leadership, financial skills, critical thinking skills, strategic thinking, customer focus, adaptability, stress management and vision.

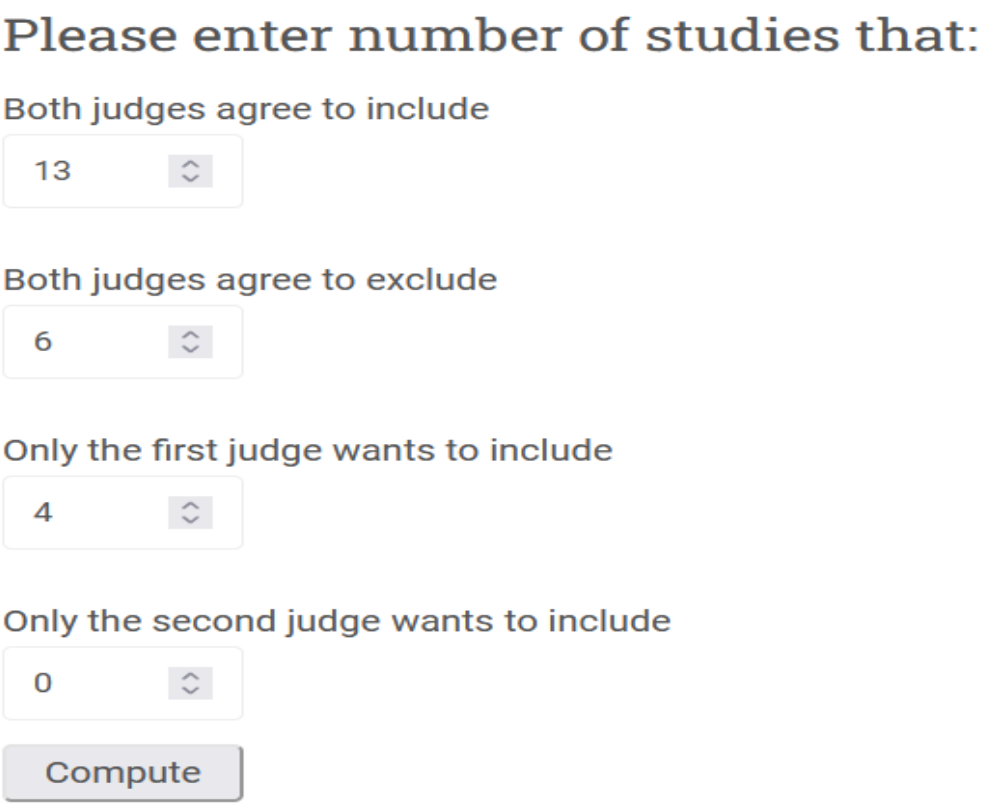
#	Key Words	Definition
9	Future-based learning	Future-based learning transform teachers into facilitators and give students more control over their learning journey. This include future-based techniques like: Curiosity, imagination, design thinking and enquiry-based approaches.
10	Problem-based learning	Problem-based learning is a student-centred learning approach where students can learn about a subject by working together in groups to solve an open-ended problem. The problem is the driver for learning and motivation
11	Learning by doing	Experiential learning action Learning
12	Soft Skills Training	Interpersonal Skills are referred to as Soft Skills. Soft Skills represent the individuals approach to life and work. Most people need some help to improve their soft skills to be better leaders, entrepreneurs, employees etc. Soft skills include: leadership skills, teamwork, communication skills, problem-solving skills, work ethic, adaptability and interpersonal skills.
13	Use of Key Speakers, role models and storytelling	The purpose of using key speakers or role models is to inspire and motivate entrepreneurs / potential entrepreneurs. Storytelling can be used as a creative and innovative pedagogy that can be used to really crab the attention of students while teaching them entrepreneurship.
14	Entrepreneurial training and development facilitation	The traditional teachers are the people that have expertise and knowledge in a specific field. Teacher convey their knowledge through a diversity of methods to their students. A Facilitator build on the knowledge base of the student group to find answers to the questions.
15	Business Incubation Support and Entrepreneurial Encouragement for entrepreneurial training and development	A business incubator support start-up business by being a Launchpad for new businesses to start by offering access to the resources the start-up businesses require. Entrepreneurial Encouragement or motivation can be described as the process of transforming an individual into a successful business person.
16	Camp Model of Entrepreneurial Education	The Camp Model of Entrepreneurial Education take students out of their normal environment into a camp type environment where the can focus on the entrepreneurial education.
17	LAB Studio Model	The LAB studio model is a multidisciplinary education model aimed at producing skilled professionals, self-directive teams and company start-ups within a certain industry focus. In this way, the model can also be described as a pre-incubator.

#	Key Words	Definition
18	Use of business competition, business simulation and serious games for entrepreneurial training and development	Universities use business competitions to motivate students to come up with business ideas in order to win prizes and support to create a business. Business Simulation is a hands-on and interactive learning experience where participants truly engage in the business process. The simulation can be computer- or classroom-based. A Serious Game combine game elements with learning strategies, structures and knowledge to teach specific skills.
19	Creativity, creative thinking and innovative entrepreneurship for entrepreneurial training and development	Creativity is the use of original ideas or imagination to create something new. Creative Thinking describe the ability to look at something in a new way or approach a problem in a new way. Innovative entrepreneurs discover entirely new things. This can be innovative new products or services, or an innovative new business process.
20	Experiential training model, experiential training and learning for entrepreneurial training and development	The experiential training model allows the students to participate in interesting, appealing activities that have a real world basis. These experiential activities assist the students to connect what they are learning to their prior knowledge and enable them to apply this knowledge to new problems or situations. Students use their knowledge directly. Also referred to as Experiential Learning or learner-centred.
21	Evaluation of Entrepreneurship Education Content and outcomes	It is important to evaluate and compare the entrepreneurship education content of different entrepreneurship education programmes to establish which content is critical for success. The success of entrepreneurship education programmes is measured by the outcomes of the programme. The aim of the programmes should be to create successful entrepreneurs.
22	Creating Networking Opportunities	There is a need for face-to-face interaction between the participants and also between the participants and other entrepreneurs, for example the local business chambers.
23	Entrepreneurial competencies	Entrepreneurial competencies can be defined as the attitudes and behaviours required by entrepreneurs to achieve and maintain business success for example: Commitment, Initiative, opportunity-seeking, Persistence, taking calculated risks, goal setting & systematic planning.

#	Key Words	Definition
24	Mentorship	It is a relationship between two people where the more experienced person is able to pass his knowledge, experience and connections on to the less experienced person.
25	Reflection	Is the process where students reflect on their own work by noticing and correcting their mistakes. It also allow students to reflect on the activities and behaviours that allowed them to be successful.
26	Use of Business Model , lean start-up or business plan for entrepreneurial training and development	The use of the Business Model Canvas as part of entrepreneurial training.
		The Lean Start-up methodology assist entrepreneurs to shorten the product development cycles and to rapidly discover if the proposed business model and product is viable.
		The use of the traditional business plan as part of entrepreneurial training.
27	Use of Case Studies	The use of case studies in entrepreneurial training to understand complex issues in a real life context.
28	How to access funding	Tools and tips on where and how to apply for funding and how to prepare the funding proposal.
29	Use of digital tools, online and social media	Digital tools like programs, online resources and websites that can make running your business easier. How to create a social media presence and using social media as a marketing tool for your business? Use online surveys.
30	Hybrid Learning Model	A Combination of online video's, online Zoom meetings, online content, face-to-face workshops, coaching & mentoring and surveys.
31	Effectuation	Use Resources Currently Available Experimental Activity Risking only what you can afford to loose Co-creation Continual learning
32	Financial management Training	How to run the business financials on a day-to-day basis.
33	Understanding Contracting and Legal requirements	Understanding how contracts work, the pitfalls, what to look for when signing a contract and other legal issues that businesses face.

ANNEXURE 2: COHEN'S KAPPA

Number of articles reviewed:	6
Both judges agree to include the codes:	13
Both judges agree to exclude:	6
Only first judge wants to include:	4



Article title	Both judges agree to include	Both judges agree to exclude	Only the first judge wants to include
A Model of EE in franchising	Entrepreneurship education		
A Model of EE in franchising	Personalised education		
A Model of EE in franchising	Soft skills		
A Model of EE in franchising	Soft skills		
A Model of EE in franchising	Competencies		
A Model of EE in franchising	Soft skills		
A Model of EE in franchising	Personalised education		
An introduction to a new entrepreneurship education method		Mentorship	
An introduction to a new entrepreneurship education method	Future-orientated learning	Mentorship	
Developing entrepreneurship education model in improving the skills of recycling of elementary school students		Entrepreneurship skills	
Exploring entrepreneurship education within veterinary medicine: can it be taught?		Use of business plan	
Exploring entrepreneurship education within veterinary medicine: can it be taught?	Competencies		

Article title	Both judges agree to include	Both judges agree to exclude	Only the first judge wants to include
Notion for entrepreneurship in school entrepreneurship training		Learning by doing	
Notion for entrepreneurship in school entrepreneurship training	Soft skills	Entrepreneurship Skills	
Notion for entrepreneurship in school entrepreneurship training	Entrepreneurial process		
Notion for entrepreneurship in school entrepreneurship training	Soft skills		
Intention-based models for EE	Teacher as facilitator		
Intention-based models for EE			Curriculum development
Intention-based models for EE			Entrepreneurial process
Intention-based models for EE			Entrepreneurship education
Intention-based models for EE			Entrepreneurship education framework
	13	**6**	**4**

ANNEXURE 3: INITIAL INTERVIEW QUESTIONS

Data collection tool: Qualitative data collection – Individual interviews

- Interviews will only be conducted with participants who completed the EWP successfully
- Semi-structured interviews with open-ended questions
- Analyses will be done with Creswell's six steps to data analysis as a guide
- Data analysis is done using the constant comparative content analysis method in Atlas.ti™.
- Trustworthiness
  - Cohens Kappa
  - Triangulation
  - Respondent validation
  - Adequate engagement in data collection – saturation

Interview schedule

Qualitative method

Date: _____

Time: _____

Recording number: _____

QUESTIONS:

1. How did the programme assist/motivate you to start your own business?
2. How did the programme assist you in growing your business?
3. What are the main obstacles/problems you are facing now in the running of your business?
4. How do you prefer to learn?
5. Do you watch online training videos to learn?
6. Do you use other online tools, e.g. quiz, interactive training?
7. Identify your current entrepreneurial/business training needs

8. What, according to you, were the top three aspects of the programme that had the greatest impact on you personally and on your business?

9. What, according to you, are the top three aspects that were **not part** of the programme that you would like to have in the programme? Why would you want it part of the programme?

10. What skills would you have liked to be addressed in more detail?

11. What abilities would you have liked to be addressed more intensely?

12. The current EWP is presented to participants over six months, with two to three consecutive full-day workshops per month, as well as assignments that participants must complete before the next round off workshops. What alternative structure would you propose?

13. What do you think we could present differently?

14. What were the most difficult workshop topics for you?

15. Which segments of the programme do you think can be offered online?

ANNEXURE 4: ADAPTED INTERVIEW QUESTIONS

Data collection tool: Qualitative data collection – Individual interviews

- Interviews will only be conducted with participants who completed the EWP successfully
- Semi-structured interviews with open-ended questions
- Analyses will be done with Creswell's six steps to data analysis as a guide
- Data analysis is done using the constant comparative content analysis method in Atlas.ti™.
- Trustworthiness
  - Cohens Kappa
  - Triangulation
  - Respondent validation
  - Adequate engagement in data collection – saturation

Interview schedule

Qualitative method

Date: _____

Time: _____

Recording number: _____

QUESTIONS:

1. How did the programme assist/motivate you to start your own business?
2. How did the programme assist you in growing your business?
3. What are the main obstacles/problems you are facing now in the running of your business?
4. How do you prefer to learn?
5. Would you think it would be beneficial to watch online training videos to learn certain concepts? What is the preferred length of the videos?
6. Would you consider using online tools, and Why?
7. Identify your current entrepreneurial/business training needs

8. What, according to you, were the top three aspects of the programme that had the greatest impact on you personally and on your business?

9. What, according to you, are the top three aspects that were **not part** of the programme that you would like to have in the programme? Why would you want it part of the programme?

10. What skills would you have liked to be addressed in more detail?

11. What abilities would you have liked to be addressed more intensely?

12. The current EWP is presented to participants over six months, with two to three consecutive full-day workshops per month, as well as assignments that participants must complete before the next round of workshops. What alternative structure would you propose?

13. What do you think we could present differently?

14. What were the most difficult workshop topics for you?

15. Which segments of the programme do you think can be offered online?

ANNEXURE 5: EXAMPLE OF CONSENT TO INTERVIEW

Informed consent letter

Private Bag X6001, Noordbrug
South Africa 2522

Tel: 018 299-2000
Fax: 018 299-2999
Web: http://www.nwu.ac.za

30 November 2020

To whom it may be concerned

INFORMED CONSENT TO PARTICIPATE IN AN INTERVIEW

Date: _____

Participant code: _____

My name is Johann Landsberg and I am an PhD student at the North-West University Business School. This study aims to explore your experiences as a participant of the Enterprising Women Programme (EWP). This study forms part of a thesis to be submitted in fulfilment of the requirements for the degree Doctor of Philosophy at the North-West University. It is an internationally accredited degree that requires adherence to strict ethical standards as a prerequisite to conducting this research.

Thank you for your willingness to participate in the interview. Your participation is voluntary. You do not have to answer any questions you do not want to answer. If at any time, you do not want to continue with the interview, you may decline. Your time and involvement are profoundly appreciated. The entire interview will take approximately 45 minutes. To maintain the essence of your words for the research, I will record the information. At any time, you may request to see or hear the information I collect.

The interview will be voice-recorded, however, your name will not be recorded. The interviewer will take notes. This is done for data analysis. The recording will be transcribed by the interviewer

and kept confidential in a password-protected computer. The transcripts and recordings will be destroyed after three years.

Furthermore, all individual identification will be removed from the hard copy of the transcript. Participant identity and confidentiality will be concealed using coding procedures. Please note that excerpts from the interview may be included in the final dissertation report or other later publications. However, under no circumstances will your name or identifying characteristics appear in these writings.

Limited demographic information will be collected with the purpose to form a profile of the participants, but will not be used to make comparisons between groups or for further statistical analyses.

The study was approved by the Scientific Committee of the NWU Business School. The Chair of the Scientific Committee is Prof Christoff Botha. He can be reached at 018 299 1672 and his e-mail address is christoff.botha@nwu.ac.za.

Ethical clearance was obtained by the Faculty of Economic and Management Sciences Ethics Committee (EMS-REC) and the ethical clearance number was allocated [NWU-00909-20-A4]. The Chair of the Ethical Committee is Mark Rathbone. He can be reached at 018 299 1356 and his e-mail address is mark.rathbone@nwu.ac.za.

The supervisor of the dissertation is Professor Stephan Van der Merwe. He can be reached at 018 299 1414 (E-mail address: stephan.vandermerwe@nwu.ac.za) for further questions or concerns about the research project.

Your input is of great value to this research and I appreciate your help in providing this information.

Sincerely,



JOHANN LANDSBERG
NWU Business School
North-West University, Potchefstroom

ANNEXURE 6: ETHICS CLEARANCE

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

Economic and Management Sciences Research
Ethics Committee (EMS-REC)

30 October 2020

Prof S van der Merwe
Per e-mail
Dear Prof van der Merwe,

EMS-REC FEEDBACK: 30102020
Student: Landsberg, JD (10545328)(NWU-00909-20-A4)
Applicant: Prof S van der Merwe / Prof V Leendertz – PhD in Business Administration

Your ethics application on*, Creating a framework for enhancing entrepreneurial education at an institution of higher learning,* which served on the EMS-REC meeting of 30 October 2020, refers.

Outcome:

Approved as a minimal risk study. A number **NWU-00909-20-A4** is given for one year of ethics clearance.

Due to the Covid-19 lock down ethics clearance for applications that involve data collection or any form of contact with participants are subject to the restrictions imposed by the South African government.

Kind regards,

Mark Rathbone

Digitally signed by Mark Rathbone
DN: cn=Mark Rathbone, o=North-West University, ou=Business management, email=mark.rathbone@nwu.ac.za, c=ZA
Date: 2020.11.05 14:28:34 +02'00'

Prof Mark Rathbone
Chairperson: Economic and Management Sciences Research Ethics Committee (EMS-REC)

ANNEXURE 7: DECLARATION OF LANGUAGE EDITING



Jomoné Müller
Language Practitioner
SATI No. 1002831
BA Hons (Language practice)

www.jmuller.co.za
Tel: +27 84 406 0029
jomone@jmuller.co.za

DECLARATION OF LANGUAGE EDITING

17 March 2022

To whom it may concern

This is to confirm that I, the undersigned, have language edited the completed research of Johann Landsberg entitled: *Creating a framework to enhance entrepreneurial education at the North-West University, bhive Enterprise Development Centre.*

No changes were permanently affected and were left to the discretion of the author. The responsibility of implementing the recommended language changes rests with the author of the thesis.

Yours truly



Jomoné Müller