ENTREPRENEURSHIP CURRICULUM IMPLEMENTATION STRATEGIES IN
ZIMBABWEAN UNIVERSITIES

BY

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THESIS SUBMITTED TO ZIMBABWE OPEN UNIVERSITY IN FULFILMENT OF
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ABSTRACT
The thesis evaluated entrepreneurship curriculum implementation in Zimbabwean universities. The thesis was prompted by shortfalls in capacitating students to create entrepreneurial opportunities. The thesis was informed by the philosophy of pragmatism and underpinned by theories of opportunity discovery and creation. Review of related literature brought evidence on applicability of opportunity discovery and creation theories. The study was a mixed method research that adopted a concurrent mixed methods design. The population comprised of students and lecturers in 16 universities in Zimbabwe. Two parallel samples were used. The quantitative sample was stratified and random, with 94 lecturers and 235 students from all programmes, while the qualitative sample was purposive, comprising lecturers and students from entrepreneurship degree programmes. Questionnaires collected data for the quantitative inquiry while semi-structured interviews and documentary reviews generated data for the qualitative inquiry. Descriptive statistics presented and analysed quantitative data while thematic analysis was used on qualitative data. Validity and reliability validated quantitative methods, while trustworthiness validated qualitative methods. Triangulation synthesised theories and methods while bracketing and member checking guided researcher’s values. Results established limited incorporation of entrepreneurship curriculum into degree programmes. Curriculum strategies were deficient in generating venture creation. The study concluded that degree programmes fell short in capacitating students to search and create entrepreneurial opportunities. The study proposed a model to incorporate entrepreneurship curriculum into degree programmes. The study recommended that university senates, deans and chairpersons develop action oriented entrepreneurship curriculum. The study recommended research that consider university mandates.
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DEDICATION

This thesis is dedicated to my wife, Agnes, and my three sons, Samuel, Kudakwashe and Munashe, in remembrance of their support during the period of my study.
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## ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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</thead>
<tbody>
<tr>
<td>AEE</td>
<td>African Entrepreneurship Conference</td>
</tr>
<tr>
<td>CBIIC</td>
<td>Chandarira Business, Innovation and Incubation Centre</td>
</tr>
<tr>
<td>CEBI</td>
<td>Centre for Entrepreneurship Business Incubation</td>
</tr>
<tr>
<td>CIADE</td>
<td>Enterprise Initiative Centre</td>
</tr>
<tr>
<td>CITC</td>
<td>Chandarira Business, Innovation and Incubation Centre</td>
</tr>
<tr>
<td>CUT</td>
<td>Chinhoyi University of Science and Technology</td>
</tr>
<tr>
<td>GEEPP</td>
<td>Graduate Entrepreneurship and Employment Promotion Programme</td>
</tr>
<tr>
<td>GEM</td>
<td>Annual Global Entrepreneurship Monitor</td>
</tr>
<tr>
<td>GET</td>
<td>Global Entrepreneurship Programme</td>
</tr>
<tr>
<td>GUESS</td>
<td>Global University Entrepreneurship Spirit Survey</td>
</tr>
<tr>
<td>HIT</td>
<td>Harare Institute of Technology</td>
</tr>
<tr>
<td>IEE</td>
<td>Integrated Entrepreneurship Education</td>
</tr>
<tr>
<td>NANGO</td>
<td>National Association of None Governmental Organisations</td>
</tr>
<tr>
<td>NESAC</td>
<td>National Engineering Students Awards Completion</td>
</tr>
<tr>
<td>NCGE</td>
<td>National Council for Graduate Employment</td>
</tr>
<tr>
<td>NUC</td>
<td>National University Commission</td>
</tr>
<tr>
<td>NUST</td>
<td>National University of Science and Technology</td>
</tr>
<tr>
<td>NUT</td>
<td>National University of Technology in Taiwan</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation of Economic Corporation and Development</td>
</tr>
<tr>
<td>QAA</td>
<td>Quality Assurance Agency</td>
</tr>
<tr>
<td>SARUA</td>
<td>Southern African Regional University Association</td>
</tr>
<tr>
<td>SIRDC</td>
<td>Scientific Research and Development Centre</td>
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SPEED : Student Placement for Entrepreneurship Education

STEM : Science Engineering and Mathematics

STEAM : Science, Technology, Engineering, Arts and Mathematics

TUM : Technical University of Munich

TVET : Technical Vocational Education and Training

UZ : University of Zimbabwe

ZIE : Zimbabwe Institute of Engineers

ZIMASSET : Zimbabwe Agenda for Sustainable Socio-Economic Transformation
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CHAPTER I

THE PROBLEM AND ITS SETTING

1.1 Background to the Study

There are topical issues that characterise the domain of entrepreneurship education. One of the contested issues is of how entrepreneurship curriculum can be incorporated into degree programmes to capacitate graduates to search and create employment opportunities (Baumol, 2010; Vanevenhoven, 2013). Universities world over, are challenged by the dilemma of formulating curriculum strategies that incorporate entrepreneurship curricula into all degree programmes to meet changing labour market needs (Mwasalwiba, 2010). As acknowledged by Smith, Collins and Hannon (2010), little is known on the nature of entrepreneurship curriculum and how its implementation can be facilitated, regardless of degree type, to capacitate students to search and create entrepreneurial opportunities.

In Zimbabwe, there are public concerns about university graduates viewed as not sufficiently capacitated for entrepreneurship (Takuta, 2012; Zinhumwe, 2012; Mutamba, 2013). These concerns are evidenced by remarks by some scholars. Takuta (2012) is of the view that degree programmes focus on academic excellence than entrepreneurial outcomes. Similarly, Mutamba (2013) says there is mass production of graduates destined for employability than employment creation. In the same vein, Takuta (2012) claims that the majority of graduates from universities in Zimbabwe prefer paid employment despite that the labour market is characterised by high youth unemployment. These concerns are in line with Zinhumwe (2012) who observed cases of
university graduates who claim that there are very few formal employment opportunities that require what students learnt in their degree programmes.

A clear depiction of unemployed university graduates can be seen within the broader context of the labour market in Zimbabwe. The 2014 labour force survey shows that of the economically active labour force in Zimbabwe aged above 15 years, 89% are employed and 11% are not employed (ZIMSTAT, 2015). However, out of the employed labour, 52.3% are seasonal workers, in communal, peri-urban and resettlement farms, while 14% are in paid permanent employment. This trend shows very little absorption of labour into paid permanent employment (ZIMSTAT, 2015). This situation shows limited formal employment opportunities for university graduates.

The labour market in Zimbabwe has two classifications of strict unemployment and broad unemployment. Strict unemployment is the number of people who are unemployed and are actively searching for work. On the other hand, broad unemployment refers to people unemployed but not actively searching for work. This is illustrated by data that shows high strict unemployment rates of 7.9% in the age group of 20-24, 9% in the age group of 25-29 and 5% in the age group of 30-34. These rates when summed up show a very high strict unemployment rate in the age range of 20-34 (ZIMSTAT, 2015). This range encompasses the age group covering majority of university graduates in search of work.
Unemployed labour in Zimbabwe, by highest level of education completed, show high rates on university graduates. According to ZIMSTAT (2015), percent strict unemployed population by highest level of education completed show a high rate of 17.3% for form six school leavers, followed by a rate of 9.4% for university graduates. While the form six rates could be attributed to limited access to university education, university graduates in search of work represents the highest rate in tertiary education. This trend is also similar to broad unemployment rates for the same categories which are 30.2% for form 6 school leavers and 12.3% for university graduates (ZIMSTAT, 2015). These statistics confirm that the number of university graduates in search of work in Zimbabwe is relatively high.

The rate at which the labour market in Zimbabwe is absorbing university graduates can be understood by looking at the rate at which different sectors absorb the labour. ZIMSTAT, (2015) indicate that of all employed workers in Zimbabwe, 59% are own account workers in communal, resettlement, and peri-urban farmers, 14% are own account workers in other sectors while 16% are in paid permanent employment. This shows relatively huge informal sector actively absorbing the labour force. While this may seem as the sector where opportunities for university graduates exist, the issue that arises is whether degree programmes in Zimbabwe have entrepreneurship curriculum effectively responding to these opportunities. Despite all this evidence, it is not clear why the existing curriculum in degree programmes continue to shape graduates who prefer paid employment in established private and public sectors, rather than search or create opportunities in own account employment where opportunities exist.
Data on employed labour force by highest level of qualification shows that only 2% of university graduates are employed as compared to 27.7% ‘O’ level school leavers and 7.1% diploma certificate holders after secondary education. The labour market seems to be absorbing labour with levels of education lower than degree qualifications. There is a paradox of why the labour market in Zimbabwe is not absorbing university graduates yet 83% of the absorbed labour force is unskilled with only 5% classified as professionals (ZIMSTAT, 2015). These issues depict the labour market situation in Zimbabwe and implications for university graduates. The question that arises is the extent to which the curriculum in degree programmes is tailored to respond to these labour market dynamics. The expectation that degree programmes capacitate students to search and create entrepreneurship opportunities in potential sectors of economy is therefore very critical. Whatever the answer maybe, the gap seems to point towards the curriculum’s shortfalls in capacitating students to search and create opportunities in sectors of the economy that have potential for employment generation.

The expectation that the curriculum in degree programmes capacitate students to create business opportunities in active sectors of the economy is now a global phenomenon (NESTA, 2013). In the UK, for example, entrepreneurship is increasingly becoming attractive amongst university students with the number of graduates wanting to start their own businesses rising to 43% in 2003 (NCGE, 2012). However, there are issues that seem to confront degree programmes namely, incorporation of entrepreneurship into mainstream curricula, curriculum integration and student support strategies(NESTA, 2013). Other issues are of variations in strategy formulation, competence development and entrepreneurial outcomes.(NCGE, 2012;Vanevenhoven (2013). All these issues suggest that beyond mere curriculum implementation, there are underlying
fundamentals that determine the degree to which the curriculum in degree programmes can produce entrepreneurship outcomes.

Studies from USA, indicate that entrepreneurship curriculum are driven by implementation frameworks that promote enabling institutional cultures, engagement of stakeholders inside and outside institutions, teaching practices that foster enhancement of entrepreneurial capacities and support strategies that boost graduate entrepreneurial action (Hulsey, Rosenberg and Benita 2006; Kestenaum, 2006; Politis, 2008). While benchmarking in the form of frameworks and facilitating variables for universal implementation may appear innovative, they originated from developed countries. It is not clear if any framework, backed by empirical studies, has been developed for universities in Zimbabwe.

In Africa, some universities have embraced entrepreneurship education in their mainstream curriculum. For example, The Chenderira Business Innovation and Incubation Centre (CBIIC) at Kenyatta University blended research with training for entrepreneurship. The Entrepreneurship Centre at University of Dar as Salam (UDEC) provided entrepreneurship training to volunteer students, staff and practicing entrepreneurs. (UDEC) assisted technical colleges and business enterprises to form incubation centres (Donath, 2008). In South Sudan, the Strathmore Enterprise Development Centre (SEDC) offered entrepreneurial training to students attached to Small and Medium Enterprises (SMEs) (Nwangwu, 2012). These curriculum reforms appear to be innovative implementation strategies. What seem to be missing from these cases are underlying universal elements to facilitate curriculum implementation across all degree programmes.
Curriculum transformation in degree programmes as a response to the labour market is of top priority in Zimbabwe. During the opening of the 8th Parliament of Zimbabwe, former President, Cde R.G Mugabe, in his official opening speech, indicated that there was need to transform the structure of the education system in order to adequately meet the evolving entrepreneurial aspirations. Thus, requiring universities, as vanguards of higher learning, to place emphasis on the teaching and learning of science, technology, engineering and mathematics including prioritisation of youth empowerment and entrepreneurial development (Ministry of Higher and Tertiary Education, Science and Technology Development, 2014). In Zimbabwe, entrepreneurship spirit is visible outside universities through, growth of SMEs, youth empowerment programmes, agrarian reforms and small scale mining activities. In addition, the government’s thrust on science, technology; engineering and mathematics (STEM) and curriculum reform programme, require that degree programmes be vanguards of entrepreneurship curriculum reform and implementation. In addition, the government of Zimbabwe expect degree programmes to advance human capital development and human capacity building through science and innovative curriculum (Government of Zimbabwe, 2013). This appears like one of the national human capital development strategies. However, as illustrated next, there is a mismatch. On one hand, entrepreneurship intent outside universities is high while on the other hand, universities seem to be constrained in reforming the curriculum in degree programmes advance graduates into the informal employment sector. While the government of Zimbabwe has a thrust on reforming the curriculum to advance graduates into innovation and venture creation (Government of Zimbabwe, 2014), there is little participation of graduates in sectors that need graduates most.
The responsibility of degree programmes in facilitating innovation through entrepreneurship curriculum is a critical issue in Zimbabwe. The Ministry of Higher and Tertiary Education, Science and Technology Development has a communication addressed to all Vice Chancellors and Zimbabwe Council for Higher Education (ZIMCHE) raising concern about universities having deviated from their mandates. In particular, the preponderance of business studies degree programmes at the detriment of programmes relevant to specific mandates (Ministry of Higher and Tertiary Education, Science and Technology Development, 2014). This position raises questions on how the curriculum in degree programmes is formed in universities in Zimbabwe and how ZIMCHE monitors the process especially where no new programmes emerge over long periods of time or where stakeholders put forward concerns about shortfalls in existing degree programmes in terms of meeting intended objectives. This scenario places responsibilities on academics responsible for formation of degree programmes.

The issues discussed above places a lot of responsibilities on lecturers, chairpersons, deans and university senates. As suggested by the QAA (2012), the formation of degree programmes starts on lecturers who design new concepts with their respective chairpersons. Chairpersons, as heads of departments, establish preliminary versions of programme, goals and objectives and form planning committees to develop formal programme proposals. These planning committees gather information to support rationality of the programme and consult key administrative units. A formal proposal draft is then produced for approval by all department chairpersons, the dean and top management before submitting to the senate. However, the issue that come to the fore is why few entrepreneurship programmes are made and why certain degree programmes fail to produce graduates capable of creating opportunities in sectors that have potential to absorb them. The
other issue is the role of Zimbabwe Council for Higher Education (ZIMCHE) in ensuring that
degree programmes that meet market needs are accredited. ZIMCHE regulates standards of
 teaching and examinations and evaluates performance of degree programmes. After evaluation,
ZIMCHE can issue, refuse to issue, or terminate an accreditation permit of a programme
(ZIMCHE, 2006). However, issues that were raised in the foregoing discussion place emphasis on
ZIMCHE’s role in determining and regulating design and implementation of entrepreneurship
curriculum in degree programmes.

It is not clear if absence of programmes on offer is either attributed to failure of submissions to
ZIMCHE or failure to meet accreditation standards set by ZIMCHE. A University wishing to
launch a new programme submits an application to ZIMCHE. ZIMCHE then gives the
application to reviewers who are experts in the field. After reviewing, ZIMCHE consolidates
experts’ input for the University to respond (Garwe, 2015). When submissions to ZIMCHE are
not satisfactory, the process does not end there. ZIMCHE instructs the university to carry out a
self-evaluation. ZIMCHE officials and peer reviewers visit the institution to conduct interviews
with deans, chairpersons, lecturers and administrative staff. However, in the case of
entrepreneurship, Appendix 2 shows very few entrepreneurship programmes on offer. This raises
the issue of whether universities have been making unsatisfactory submissions to ZIMCHE or no
submissions have been made.

While ZIMCHE’s role is of quality assurance while the task of initiating and designing
curriculum for degree programmes is a privilege of university lecturers, chairperson and deans, it
is not clear if proposals for implementation of entrepreneurship curriculum in all degree
Programmes have been submitted to ZIMCHE. It is also not clear if ZIMCHE has a framework for regulating underlying issues that determine teaching of entrepreneurship in all programmes. The issue of universal elements to guide entrepreneurship curriculum in degree programmes is therefore critical particularly for quality assurance purposes and navigating varied university contexts and mandates.

A brief examination of how entrepreneurship curriculum prevails and benchmarked in universities in Zimbabwe provides a clue. In Zimbabwe, there are only five universities that offer fully fledged entrepreneurship degree programmes. These are Midlands State University, Women’s University in Africa, Chinhoyi University of Science and Technology, Lupane State University and Zimbabwe Ezekiel Guti University. However, these are only offered as modularised degree programmes with elective courses borrowed by other programmes. While this may indicate the applicability of entrepreneurship degree programmes in every university, it shows that not all universities in Zimbabwe offer fully fledged entrepreneurship degrees.

However, there are universities that have fully fledged faculties and programmes with visible underlying variables of strategy formulation, integration, culture promotion and student support. For example, Chinhoyi University of Science and Technology (CUT), has a School of Entrepreneurship and Business Studies. The school has an entrepreneurship degree programme and courses that are borrowed by other programmes. The school also coordinates venture creation studies as a strategy for student support and culture promotion. National University of Science and Technology (NUST) has no entrepreneurship degree programme. However, its commerce faculty generates and coordinates entrepreneurship courses borrowed by other
faculties. NUST also provides student support and culture promotion through extra-curricular activities. In terms of strategy formulation, (NUST) has a strategic plan that seeks to reorient its curriculum by mainstreaming entrepreneurship education into all its programmes. While some business start-ups and incubators have been developed by NUST, little is known about the nature and intensity of elements that drive its entrepreneurship curriculum into producing desired graduate entrepreneurs. University of Zimbabwe (UZ) has business and science faculties that have existed since pre-independence. However, some studies have criticised their teaching approaches as too conservative and deviant from mainstream entrepreneurship values (Chinjekure, 2013; Mauchi, 2011). While these cases may provide a brief insight; they depict isolated strategies rooted in individual universities’ mandates. It is not clear if all universities in Zimbabwe are pursuing the same entrepreneurship agenda with implementation targeting all degree programmes.

The researcher was motivated by issues that dovetail to how university lecturers in Zimbabwe interpret and incorporate entrepreneurship curriculum into degree programmes. The researcher saw the logic that while degree programmes may require different curriculum implementation strategies, facilitating variables and student support services, beyond this lie possibilities of incorporating entrepreneurship curriculum across all programmes.

1.2. Statement of the Problem

There are growing public concerns that university degree programmes are producing graduates who go on to search for employment opportunities in established public and private enterprises. This is against the backdrop that the economy has been absorbing limited labour force in these sectors over the years. There is a steady increase in the supply of labour force from universities
over the years with the majority of degree qualifications advancing students into searching for opportunities in the formal sector. This is despite the challenge of university graduates in search for work being confronted with very few opportunities for paid employment. There is a paradox that while the informal sector is active in absorbing labour, it has been attracting very few university graduates over the years. There is also a high rate of university graduates in search of work as compared to the uptake of labour force with qualifications lower than degrees. This scenario projected a situation of limited uptake of university graduates by sectors that are active in absorbing manpower.

Few graduates are either employed in the informal sector or are doing informal employment activities. This is in comparison to the numbers of labour force in the informal sector with qualifications lower than degrees. Lack of participation in the informal sector by university graduates raised issues of whether the curriculum in degree programmes was ideal in capacitating students to search and create business opportunities in the growing informal sector. Few universities had degree programmes that incorporated entrepreneurship curriculum and little was known on the underlying fundamentals guiding universities to design and implement a curriculum that produces desired entrepreneurship outcomes. Complications brought about by varied university mandates, contexts and absence of established benchmarked frameworks for guiding incorporation of entrepreneurship curriculum in degree programmes prompted this thesis to evaluate strategies that universities in Zimbabwe used to incorporate entrepreneurship curriculum into all their degree programmes. The thesis focused on curriculum integration, culture promotion and competence development strategies in the light of how students were supported to search discover and create business opportunities. In the end, the thesis sought to
fill the gap by formulating a generic model that can be used to incorporate entrepreneurship into all degree programmes.

1.3. Aim of the Study

The aim of the study was to evaluate how the implementation of entrepreneurship curriculum in universities in Zimbabwe was facilitated to produce entrepreneurial graduates during the period 2012 to 2017.

1.4. Objectives of the Study

The study was guided by the following objectives:

1.4.1. To identify strategies that universities in Zimbabwe use to facilitate implementation of entrepreneurship curriculum in degree programmes.

1.4.2. To assess the extent to which curriculum integration strategies in universities in Zimbabwe facilitate the implementation of entrepreneurship curriculum in degree programmes.

1.4.3. To assess the extent to which universities in Zimbabwe promote a culture that facilitates the implementation of entrepreneurship curriculum in degree programmes.

1.4.4. To analyse competence development strategies that universities in Zimbabwe use to support students to search and create entrepreneurship opportunities.

1.4.5. To develop a model that can be used to incorporate entrepreneurship curriculum into all degree programmes in Zimbabwe.
1.5. Research Questions

The study sought to answer the following sub-questions:

1.5.1. What strategies do universities in Zimbabwe use to facilitate the implementation of entrepreneurship curriculum in degree programmes?

1.5.2. To what extent do curriculum integration strategies in universities in Zimbabwe facilitate the implementation of entrepreneurship curriculum in degree programmes?

1.5.3. To what extent do universities in Zimbabwe promote a culture that facilitates the implementation of entrepreneurship curriculum in degree programmes?

1.5.4. What competence development strategies do universities in Zimbabwe use to support students to search and create entrepreneurship opportunities?

1.5.5. How can a model that incorporates entrepreneurship curriculum into all degree programmes in Zimbabwe be developed?

1.6. Significance of the Study

The thesis generates data that informs universities on best practices of facilitating implementation of entrepreneurship curriculum in all degree their programmes. The thesis generates data that guide the Ministry of Higher and Tertiary Education, Science and Technology Development in crafting policies that assist degree programmes to produce requisite entrepreneurial graduates in line with STEM policy objectives. The thesis generates data to advance strategies to empower lecturers to facilitate reform and incorporate entrepreneurship curriculum in degree programmes and courses. The thesis’s findings expand opportunities for supporting students’ ventures through university, commerce and industry partnerships and
The thesis’ findings open up frontiers for all universities to embed entrepreneurship curriculum, in its various forms, into all their faculties and programmes. To Zimbabwe Open University in particular, the thesis’s findings open up new boundaries for extending open and distance learning to lifelong entrepreneurship learning. The thesis contributes to internationalisation of university education by capacitating all universities in the world with strategies to implement new curricula. As an academic, the researcher gained knowledge in entrepreneurship curriculum formation and implementation.

1.7. Assumptions of the Study

In carrying out the study, the researcher made the following assumptions. First, the Ministry of Higher and Tertiary Education, Science and Technology Development would grant permission to carry out the research. Secondly, university authorities would allow the researcher to administer questionnaires, carry out interviews and access data from primary and secondary documents. The researcher assumed that in addition to universities in Zimbabwe that had entrepreneurship degree programmes, there were some that offered courses and co-curricular activities in entrepreneurship. It was assumed that beyond implementation of entrepreneurship curriculum, there were underlying fundamental variables that could be manipulated to facilitate the curriculum to bring desired outcomes. Another assumption was that, all lecturers and students were familiar with entrepreneurship.

1.8. Delimitation of the Study

The study was delimited to the nature and implementation strategies of entrepreneurship curriculum in bachelors’ degree programmes in universities of Zimbabwe during the period 2012 to 2017. It covered all universities in Zimbabwe. The study only evaluated underlying elements
of strategy formulation, integration, competence development, culture promotion and student support because these elements were inherent in global trends and some universities in Zimbabwe were implementing some of them. The study restricted itself to the influence of the evolutionary paradigm because it allowed use of the mixed methodology that utilised strengths of quantitative and qualitative methodologies. Given the geographical dispersion of universities in Zimbabwe, the study limited itself to a random sample of 6 universities. Due to large numbers of subjects, data sources were restricted to randomly sampled lecturers and students and purposively sampled entrepreneurship lecturers and students. Secondary data sources were limited to accessible documents related to entrepreneurship education. Data sources excluded external stakeholders such as graduates, key informants from industry, commerce, government and parastatals because they were not directly involved in curriculum formation and its incorporation into degree programmes.

1.9. Limitations of the Study

The study’s population only covered lecturers and students and excluded key informants from commerce, industry, government, SMEs, NGOs, and alumni. However, this exclusion was justified as no study of such a magnitude had been done in this area. Hence the thesis focused on laying the basis for future studies by describing the state of curriculum issues from universities’ perspectives. This limitation was also diluted by proposing a model that encompassed external stakeholders. The researcher experienced limited access to source documents viewed as sensitive by university management. These limitations were, however, overcome by triangulating data from students and lecturers. The researcher also tested validity and trustworthiness of certain claims, assumptions and generalisations from respondents through triangulation. Questionnaire
data had shortfalls in exploring abstract realities. However, it was hoped that questionnaire limitations were overwhelmed through complementing closed questions with open ended questions. Interview data from students and lecturers directly involved in entrepreneurship studies and activities also reduced limitations of quantitative data.

1.10. Definition of Special Terms and Expressions
The following terms were defined and used in the study.

1.10.1 Curriculum implementation refers to a process of putting into reality intentions embodied in curriculum proposals.

1.10.2 Entrepreneur refers to innovative, risk taking and persistent individual who envisions a community need and creates ventures to satisfy the need regardless of resources available.

1.10.3 Entrepreneurial competencies refer to clusters of knowledge, skills, attributes, which students acquire throughout their academic and personal development at university that enable them to turn their ideas into entrepreneurial action.

1.10.4 Entrepreneurship refers to a process by which an entrepreneur pursues opportunities in specific contexts of setting up new ventures, growing existing businesses or designing entrepreneurial organisations.

1.10.5 Entrepreneurship culture refers to shared patterns of beliefs and values deliberately created to shape students’ cognitive and emotional choices towards entrepreneurship as a career choice.

1.10.6 Entrepreneurship curriculum refers to a planned and guided learning experiences and intended outcomes, formulated through systematic reconstruction of knowledge and experience
under the auspices of the university, for the student’s continuous and wilful growth in entrepreneurship competence.

1.10.7 Entrepreneurship education refers to a process of equipping students with enhanced entrepreneurial capacities (knowledge; skills; mind-sets and behaviours) to turn ideas into action.

1.10.8 Entrepreneurship outcomes refers to results from entrepreneurship curriculum such as graduate entrepreneurs, start-ups, spin offs, and entrepreneurship activities done by university graduates.

1.10.9 Entrepreneurial university refers to a university that has fully embraced entrepreneurship in terms of providing opportunities, practices, cultures, and environments conducive to actively engage all students and lecturers into entrepreneurship practice.

1.11 Chapter Summary

This chapter discussed the background to the problem, statement of the problem, research questions, aim and objectives of the study. The chapter also presented assumptions, significance, delimitation and limitations of the study. The chapter ended with definition of special terms and expressions. The next chapter discusses review of related literature.
CHAPTER 2

REVIEW OF RELATED LITERATURE

2.1. Introduction

The previous chapter discussed the background to the study. This chapter reviews related literature. The chapter focuses on how philosophical, psychological, sociological and economic foundations shape the entrepreneurship curriculum. The chapter presents the conceptual framework in two configurations namely the nature of entrepreneurship curriculum and how curriculum implementation can be facilitated in all degree programmes. The chapter presents the theoretical framework, informed by the discovery and creation theories and sets of theories that explain underlying variables that drive the curriculum into opportunity discovery and creation. The discussion converges the theories to form the spine of the curriculum and illustrate how its implementation can be facilitated universally across all programmes. The theories are on strategy formulation, curriculum integration, culture promotion, competence development and student support. The chapter reviews studies that applied the theories of opportunity discovery and creation and then moves on to review studies that demonstrated how each of the facilitating variables was applied in the teaching of entrepreneurship in universities in USA, Europe, Asia, and Africa. The chapter ends by exposing the gap that the thesis sought to fill.

2.2. Foundations of Entrepreneurship Curriculum

The entrepreneurship curriculum was informed by the philosophical ideals that explain how curriculum in degree programmes can contribute to the formation of new ventures. Notable were thoughts from Alvarez and Barney (2008) that explain teaching and learning activities for
capacitating students to create and launch new ventures. Entrepreneurship curriculum was therefore seen as a process of equipping students with knowledge and values to search, discover and create opportunities for setting up new ventures. Theories from educational psychology contributed to the understanding of entrepreneurship curriculum. For example, O'Connor (2010) shows how individual differences contribute to variations in entrepreneurship capability. Similarly, Cope (2013), informs on the role of cognition in shaping entrepreneurship behaviour and attitudes among students. The sociological domain provided explanations of how the social context influences learning of entrepreneurship. For example, Siok (2014) says that the process of entrepreneurship is a socialisation process that starts when people are displaced or socially marginalised. Similarly, the social marginality theory by Acs and Audretsch (2013) imply that people are forced into searching for opportunities as a way of life to improve their circumstances. The economic perspective illustrated how entrepreneurship can be developed from business degree programmes. Acs and Andretsch (2012), argue that entrepreneurship curriculum must be confined to enterprise formation and growth. This implies that teaching of entrepreneurship must be concerned with teaching of business formation and growth.

This study was concerned with goal setting for the entrepreneurship curriculum. Hjoth and Johannisson (2012), see entrepreneurship as innovation and formation of new businesses. Subsequently these philosophies give birth to educational goals that seek to make students emerge as innovators and initiators of businesses. Teaching methods, in turn, are ingredients to realise achievement of entrepreneurship goals in degree programmes (Solomon 2013). Vanevenhoven (2013) advocates for traditional teaching methods. However, some scholars like Thomas and Duening (2013) and Solomon (2013) are very critical of traditional methods. It was
therefore in light of the forgoing theoretical base that the thesis brought to the fore a conceptual framework depicting the researcher’s understanding of the nature of entrepreneurship curriculum and underlying variables to facilitate curriculum implementation.

2.3. Conceptual Framework

According to Brannen (2005) and Kennedy (2009), the conceptual framework act as a map of actions required during the study, reflecting the researcher’s understanding of the literature and his observations of the issues in the problem. The conceptual framework was therefore, essential as the researcher’s synthesis of concepts derived from literature to explain the nature of entrepreneurship curriculum and its implementation in degree programmes. It was illustrated in diagrammatic form (Figure, 2.1), depicting concepts on implementation of entrepreneurship curriculum in universities.

The conceptual framework was influenced by issues regarding the nature of entrepreneurship curriculum and underlying variables that facilitate implementation. The main concept therefore focused on incorporation of entrepreneurship curriculum in all degree programmes and courses. The focus was to clarify the nature of the curriculum and universal underlying variables that all degree programmes can use to facilitate implementation of the curriculum. The framework sought to synthesise a curriculum that promote opportunity discovery and creation while informing on variables that facilitate implementation, namely, strategy formulation, integration, culture promotion and competence development strategies. These variables support implementation in all degree programmes and overcome constraining contextual factors in the incorporation of the curriculum across degree programmes. The conceptual framework was
therefore twofold. First, it unpacked the curriculum facets and informed how each component was related to opportunity discovery and creation. Secondly, the framework went further to depict key elements that drive implementation to entrepreneurship curriculum to opportunity discovery and creation levels. The concept of facilitating variables was provoked by the absence of generic support mechanisms to make entrepreneurship curriculum produce outcomes of opportunity search, discovery and creation. The facilitating variables formed the foundation of the thesis’ objectives. In the main, the framework was crafted from the researcher’s objective conception that little is known on how implementation of entrepreneurship curriculum in all degree programmes and in all universities can be facilitated.

**Formal curriculum**

![Diagram of Formal Curriculum]

**Informal curriculum**

*Figure 2.1 Framework for entrepreneurship curriculum in universities*

Source: (Author, 2018).
The framework in figure 2.1 depicts four modes of entrepreneurship curriculum for degree programmes. The modes comprise formal curriculum, informal curriculum, student support programmes from universities and support universities get through strategic partnerships. Each of these modes feed into the implementation process.

The formal curriculum mode is further divided into components where students learn about entrepreneurship through lectures, tutorials, assignments and awareness programmes. The formal curriculum also involves learning for entrepreneurship by provoking students to solve problems, recognise opportunities and create small enterprises. The third component of a formal curriculum covers experiential learning that engages students into making innovations and technology ventures. The informal curriculum on the other hand depicts activities where students engage in campus and community based entrepreneurial activities. These are culture promotion variables expected to consolidate entrepreneurship mind-sets and attributes among students. Examples are start-ups, career support services and business plan competitions. They also include students networking with commerce, industry, SMEs and NGOs. On one hand, support from strategic partnerships with industry come in the form of industrial attachments, attachments at SMEs, students researching in industry and SMEs together with funding for students’ researches/innovations. On the other hand, student support from universities come in the form of business incubators, internships and venture capital.

However, this structure only depicts modes of entrepreneurship curriculum and how they contribute to opportunity discovery and creation. The framework does not extend beyond the
horizon to depict implementation dynamics that actually give birth to desired entrepreneurship outcomes where students emerge as entrepreneurs. Figure 2.2 shows the next phase of the framework concerned with filling this gap.

Figure 2.2. *Key facilitators for entrepreneurship curriculum implementation*

Source: Author (2018).

The second facet of the conceptual framework in figure 2.2 shows a picture of key variables that contribute to opportunity discovery and creation by students in all programmes. This facet was modelled on the assumption that entrepreneurship curriculum thrives on ecosystems in which multiple elements contribute to its success (Baumol 2010; Grand and Parren, 2012). The facet
illustrates a situation where the success of implementation dynamics is driven by key variables namely strategies for implementation, degree of integration with other academic disciplines, degree of entrepreneurship culture and competence development strategies that support all students (Kevin 2007; Panaluna and Panaluna 2008; Rae 2010; Vanevenhoven 2013). These key variables formed the basis for the chapter’s themes and led to formulation of a model that all universities can use to incorporate entrepreneurship into all their degree programmes and courses.

The model was formulated on the researcher’s assumption that universities are subsystems of larger ecosystems, portraying multi-stakeholder partnerships with government, NGOs, other universities, business and industry. In the process universities generate entrepreneurship knowledge through their entrepreneurship curriculum. Generated entrepreneurship knowledge is converted into action through strategic partnerships and student support programmes. In the main, this section depicts a picture where implementation of entrepreneurship curriculum manifests in various forms (Baumol 2010; Grand and Paren, 2012). However, implementation on its own is not adequate to make graduates emerge as entrepreneurs with competencies for opportunity discovery and creation. Instead, it requires facilitation through underlying variables of strategy formulation, integration, culture promotion and competence development to support students (Panaluna and Panaluna 2008; Rae 2010; Vanevenhoven 2013). The next section presents the theoretical framework, depicting the entrepreneurship curriculum and the underlying variables that facilitate its implementation in degree programmes.
2.4. Theoretical Framework

To explain the nature of entrepreneurship curriculum and how its implementation into all degree programmes can be facilitated, various theories are reviewed. The theories were purposively sampled to inform all components of the conceptual framework. The theoretical framework is also twofold. The first component has three theories namely, the equilibrium destruction theory, opportunity discovery and opportunity creation theories. The theories supported the features of the entrepreneurship curriculum. These theories together contribute to the trunk of the framework that informs the nature of entrepreneurship curriculum and how it is formed in degree programmes and courses. However, this trunk does not explain how implementation of the curriculum can be facilitated universally across all programmes.

The second component of the framework is therefore informed by theories that anchor the key variables that drive curriculum implementation. The variable of strategy formulation is driven by Macdonald’s partnership model, the theory of curriculum change and innovation in universities and the theory of entrepreneurship strategy and knowledge generation. The variable of curriculum integration is supported by the theory of curriculum integration and the entrepreneurship model for none-business disciplines. The variable of culture promotion is anchored by the sociological theory of entrepreneurship, social capital and social network theory and the anthropological theory. Lastly, the variable of competence development is supported by the theory of entrepreneurial intention and behaviour, the competence based theory, the social cognitive theory, experiential learning theory and the theory of knowledge generation. All these theories dovetail to fill the gap that little is known on the nature of entrepreneurship curriculum to incorporate in all degree programmes and how its implementation can be facilitated so that all
students, regardless of degree or course type, can be capacitated to search, discover and create opportunities. The first component is unpacked first, starting with the discovery and opportunity theory of entrepreneurship (Equilibrium destruction theory).

2.4.1. Discovery and Opportunity Theory of Entrepreneurship

Many theories have been put forward to explain entrepreneurship. However, the study focused on the discovery and opportunity theory of entrepreneurship theory to explain the nature of entrepreneurship curriculum. This theory has its roots in Schumpeter’s (1934) works and contributed to the spine of the thesis’s theoretical framework. This theory sees entrepreneurship as innovation, imitation and bringing economic changes from existing equilibrium. The student as an innovator, an economic and social leader gets joy form innovating, and providing new services to society and moving it out of equilibrium. The theory has been elaborated to two theories namely the opportunity discovery theory and the opportunity creation theory discussed next.

2.4.2. The Opportunity Discovery Theory

Literature provides a number of theories that see opportunities as arising from market equilibrium. However, the opportunity discovery theory is widely subscribed. This theory has roots in the equilibrium theory and was adapted by Kirzner (1973). It was later on developed by Shane (2003) and Venkataraman (2003). The theory emphasises the ability of unusually alert individuals to exploit objective opportunities under conditions of risk. The theory also asserts that opportunities for entrepreneurship are objective and exist independent of people who may or may not be aware of them. This assumption implies that students who wish to get into
entrepreneurship programmes must be able to discover and exploit opportunities that come into their way. However, it is important to note that existence of opportunities depend on the socio-economic environment students are in, that is, the structure, characteristics of industries and markets that exist in the economy.

In the light of all these views, the discovery theory formed one of the pillars of the theoretical framework. The discovery theory informs that the curriculum in degree programmes must be designed to capacitate students to search and discover opportunities under conditions of risk and uncertainty. However, the theory does not explain how the curriculum in all degree programmes and courses can be reformed and implemented in order to effectively capacitate all students to search and discover opportunities.

2.4.3. The Opportunity Creation Theory

The opportunity creation theory influenced this study and contributed to the spine of the theoretical framework. The opportunity creation theory originated from Schumpeter’s (1934) equilibrium theory. It was later on developed by several theories notably, Gartner (1985). The theory was also adapted to many managerial economic situations by a number of theorists such as Casson (1982) and Tiene and Chandlar (2012). The theory is widely seen as an alternative to opportunity discovery as it incorporates actions of creating opportunities (Gartner, 1985; Venkataraman, 2003). The theory challenges the view that opportunities are objective and formed by exogenous shocks in the economy. On the contrary, the theory asserts that opportunities do not necessarily evolve out of pre-existing sources; rather they are created endogenously by actions and reactions of entrepreneurs as they explore ways to produce new
methods of production. The opportunity creation theory informed this study by establishing that opportunities for entrepreneurship do not exist independent of students’ actions but are created by the students. The theory further informs that students must not wait for exogenous shocks in the economy to generate opportunities. Instead, they must be proactive to create opportunities that have not been created before.

The synthesis of the discovery and creation theories was therefore done as both theories stem from the equilibrium theory and converged into the mainstay of the theoretical framework. The discovery theory informed that opportunities for start-ups by university students are objectively available and students who wish to exploit them can discover the opportunities through systematic study of the economic system. Entrepreneurship curriculum, in degree programmes and courses may therefore prepare students for the opportunity search process. The opportunity creation theory on the other hand informed that opportunities can be created by students if they experience the search process. The curriculum may therefore, have experiential search processes that students experience under conditions of risk and uncertainty. Theories discussed next, inform how implementation of entrepreneurship curriculum in all degree programmes can be facilitated.

2.4.4. The Role of Strategy Formulation in Curriculum Implementation

The next theories namely, the Macdonald’s partnership model and the theory of entrepreneurial strategy and knowledge generation are reviewed to illustrate the role of strategy formulation in curriculum implementation.
2.4.4.1. Macdonald’s Partnership Model

One of the models used to study the implementation of entrepreneurship education is the partnership model. Originally developed by Wheeler (1967) the model has many subscribers such as Stevenson and Jarrillo (1990) and Rae (2010). The model shows that entrepreneurship, as a discipline, embeds thematically into other disciplines. Entrepreneurship curriculum is to a large extent is influenced by external stakeholders such as business, industry and commerce. The model emphasises the role of internal and external stakeholders in the process of reforming the curriculum. The model further illuminates a structure depicting governments’ mandate of curriculum design supported by many stakeholders. However, the model puts implementation responsibility to individual institutions and gives universities autonomy in adapting the curriculum for their degree programmes and courses.

The MacDonald’s partnership model informed this study by prioritising the central role of strategy formulation. The model values national goals and frameworks that guide universities in designing entrepreneurship curriculum for their degree programmes. The model also informs on the role of business and industry as strategic partners in the broad national framework in line with each university’s mandate. The model therefore, sees entrepreneurship curriculum as multidisciplinary, driven by multi-stakeholder input. However, it is limited in that it is applicable to the school system and less appealing to universities which are open systems, with different mandates influenced by multi stakeholder ecosystems.
2.4.4.2. Theory of Entrepreneurial Strategy and Knowledge Generation

Despites many theories available in literature, the study was influenced by the Theory of entrepreneurial strategy and knowledge generation. The proponent of this theory is Beaucamp (1975). This theory has many subscribers with different interpretations and settings (Zais 1976; James and Brookfield, 2014). However, a recent development was by Siok (2014) who observed four main elements that explain the landscape of entrepreneurial knowledge generation. The elements are strategy, process, people and platform.

The strategy element when adapted to entrepreneurship teaching in degree programmes show that a university needs visible structures/centres for seeking external resources and helping businesses to get access into university territories. This claim was also echoed by James and Brookfield (2014), who said that a university must have a strategy for implementing entrepreneurship education that is shared by all degree programmes and external stakeholders. This assertion shows that entrepreneurial strategy formulation is very critical in the incorporation of entrepreneurship curriculum into degree programmes. Another facet of the theory asserts that there must be a process of open knowledge transfer from universities to the external environment. D’ Este and Pete (2007) claim that the process is driven by universities’ centres that facilitate transformation of knowledge from universities into business and industry. D’Este and Pete (2007) acknowledge the coordination of different stakeholders in knowledge transfer activities. The third facet of the theory is that people are a prerequisite to curriculum implementation. People are responsible for transfer of entrepreneurship values across all university entities (Siok, 2014). This facet informs the study by depicting the importance lecturers, active entrepreneurs, students and venture capitalists in the process of entrepreneurial
knowledge generation and transfer. The fourth facet of the theory is that of a platform. Siok (2014) elaborates this feature by combining university infrastructure and organizational structures to support knowledge transfer processes. This demonstrates the importance of strategising by establishing information systems and resource management mechanisms for partnering with stakeholders.

Krueger and Norris (2000) further developed the theory by adding that the transformation of knowledge from universities must go beyond traditional missions/mandates to obligations that transform their internal cultures into entrepreneurial universities. Krueger and Norris (2000) adds that universities must value external knowledge the same way as internal knowledge so as to interconnect the university with its external stakeholders. In addition, Krueger and Norris (2000) proposes that universities must employ business models of technology transfer that are sensitive to intellectual property and intellectual wastage. This theory is important because it confirms the importance of strategy and articulates essential characteristics of an effective strategy. The theory connects well to other variables of student support and culture transformation. However, the theory only serves as a general framework to guide implementation. It does not precisely spell out how universities can develop competencies and effect integration to produce entrepreneurship outcomes. The next section reviews theories on the role of curriculum integration in curriculum implementation

2.4.5. The Role of Curriculum Integration in Curriculum Implementation

Although literature covers a wide range of theories on curriculum integration, this review primarily focused on two theories namely, the theory of curriculum integration and the
entrepreneurship teaching model for none-business disciplines. While all other theories are not discounted, these two theories influenced the study most.

2.4.5.1. The Theory of Curriculum Integration

![Diagram of Curriculum Integration]

Figure 2.3. *The Theory of Curriculum Integration*

Source: Hindle, (2007:134)

The study was informed by the theory of curriculum integration shown in Figure 2.3. The precursor of the theory is Wittock and Wiley (1970). The theory was applied to many educational settings (Rae 2010; Leino, 2011). Connected to this theory was Hindle, (2007) whose adaption influenced this thesis most. Hindle, (2007) sees an entrepreneurship curriculum as confronted by a curriculum with options for either focusing on selected degree programmes or on university wide programmes. In the focused approach entrepreneurship curriculum is
designed for courses and programmes in selected disciplines seen as appropriate, for example, business and economics. The focused approach targets specific levels of degree programmes and courses for example undergraduate, MBAs and PhDs. This approach fits well when the focus of integration is within a faculty. It fits well for integration that deliberately targets specific degree levels and types across faculties. However, this integration approach is narrow because it assumes that the entrepreneurship curriculum is only applicable to certain faculties, programmes or courses. It falls short in informing the importance of embedding the curriculum into all disciplines and the importance of originating the curriculum all disciplines.

In the university wide approach, the theory proposes three approaches namely, the magnet, radiant and mixed. The theory proposes that an entrepreneurship curriculum be coordinated by a single centre, open to all students. The centre enables goal setting, learning activities and resources to be bundled within the same platform. The magnet concept is important because it promotes interdisciplinary networking and links all stakeholders within and outside the university. The entrepreneurship centre is suitable in facilitating informal curriculum and support activities such as clubs, business plan competitions and community service activities. The coordinating centre can be a source of promoting entrepreneurship culture, research and scholarship. Despite all these contributions, the magnets concept was seen as limited in facilitating formal learning in specific degree programmes. This argument stemmed from the assertion that curriculum goal setting and design of learning activities is a responsibility of lecturers within the settings of their respective degree programmes. Entrepreneurship centres are, therefore, less effective capacitate students than degree programmes.
In the radiant approach, the theory proposes that entrepreneurship programmes be offered outside business faculties. In this case individual faculties are responsible for the formation and viability of entrepreneurship curriculum for programmes and courses. In the radiant approach, entrepreneurship programmes and courses are adapted to goals, structures and teaching methods of individual departments. The radiant approach asserts that all lecturers are responsible for development and implementation of entrepreneurship curriculum within their respective domains. For example, all disciplines be it arts, social sciences or engineering, can tailor an entrepreneurship curriculum to suit their degree programmes and courses. Lecturers in respective departments can set entrepreneurship curriculum goals and learning activities to capacitate their students to search and create opportunities in line with their studies. While this approach appears suitable for promoting university wide integration, some views from other scholars such as the European Commission (2013) argue that this is a fragmented approach to curriculum integration and cannot function harmoniously on its own without central coordination.

In the mixed approach, the theory proposes that all faculties and departments work together in designing entrepreneurship curriculum for programmes and courses. The curriculum that comes out of this collaboration is multidisciplinary and has goals and teaching activities adaptable and applicable to all disciplines. The mixed approach creates opportunities for strong collaborative linkages between faculties and departments. The approach contributes to building a university-wide entrepreneurship curriculum with potential for promoting further unified links with industry and commerce. However, some scholars like European Commission (2013) critic this approach citing challenges in producing multidisciplinary courses acceptable to all degree programmes and courses. Another argument by European Commission (2013) is that universities are driven
by different mandates which subsequently influence programme goals. It is therefore difficult for departments to reach consensus on goals and teaching approaches. Despite the shortfalls, this theory contributed to the study by illustrating the importance of the variable of integration in incorporating entrepreneurship curriculum in all degree programmes and courses. The next theory shows how entrepreneurship curriculum can be integrated into none-business disciplines.
2.4.5.2. Entrepreneurship Teaching Model for None-Business Disciplines

The study was influenced by the entrepreneurship teaching model for non-business students shown in Figure 2.4. Developed by Rogers (1983), the model has roots in the domain of innovation and diffusion. Quite recently, the model was adapted by Papyannakis, Kastelli, Domingo and Mavrotas (2008) for science and technology students. These theorists proposed three components namely, teaching component, experiential component and support component. The teaching component depicts a teaching strategy that pools resources together and help students acquire knowledge and skills in entrepreneurship. The experiential component in turn
empowers students to develop self-confidence, desired attitudes and intentions. Consequently, the support component adds up by providing opportunities for students to create ventures. The model for none business disciplines is important because it depicts how entrepreneurship teaching can be adapted to none-business disciplines. However, it does not specify whether the teaching is done by the business faculty or by the discipline that houses the student or both.

In the main, the theory of curriculum integration and the entrepreneurship teaching model for none business disciplines contributed to understanding of the variable of integration and its importance in incorporating entrepreneurship curriculum in all degree programmes. While the range of integration theories is not exhaustive, the two theories provided the basis for developing further integration strategies. The next theories articulate the role of entrepreneurship culture in facilitating curriculum implementation.

2.4.6. The Role of Entrepreneurship Culture in Curriculum Implementation

While literature covers a wide range of theories that explain the role of culture promotion entrepreneurship teaching, this review primarily focused on the social capital and social network theory and the anthropological theory.

2.4.6.1. Social Capital and Social Network Theory

The study was also informed by the social capital and social network theory. Developed by Shapero and Sokol (1982), the theory proclaims that social networks act as social capital for aspiring entrepreneurs. It also asserts that stronger social networks provide and facilitate acquisition of resources and enhance probability of opportunity discovery and creation. The
theory was adapted by Carolis, Donna and Sparito (2006) who established that entrepreneurs are imbedded in a larger social network structure that houses opportunities. This assertion informed that university students may have capacities to search and identify opportunities but lack social connections to transform the opportunities into business start-ups. It is through access to relevant social networks that students may breakthrough particularly in none business social networks. This implies that the curriculum in degree programmes and courses must have culture promotion activities that act as platforms for students to access entrepreneurial networks. Examples of activities can be promotion of entrepreneurship spirit, university-wide entrepreneurship community, social entrepreneurship in communities by university students and lecturers. Despite all these contributions, the theory limits itself to seeing entrepreneurship as only emerging from social networks. The theory leaves out environmental and cultural sources.

2.4.6.2. Anthropological Theory

The study was informed by the Anthropological Theory. The anthropological theory has its roots in anthropology (Shane, 1994). A more recent application in entrepreneurship was done by Ozegen, Robert and Baron (2007). The theory’s adaption demonstrated the role of cultural issues in venture creation. The theory proposes that cultural practices shape entrepreneurial attitudes leading to innovative and venture creation behaviour. The theory also asserts that entrepreneurship practices that are developed by groups of individuals and eventually become group norms have a strong influence on individual member values and attitudes towards entrepreneurship. This theory, therefore, encourages a curriculum that motivates students to do business societies, clubs and cooperatives as part of their entrepreneurship learning. The theory also encourages community building, team work, group values and norms. This theory was
important in this study as it informed that cultures created by groups of students doing entrepreneurship activities influence students’ attitudes and intentions, towards entrepreneurial intentions. However, the theory does not explain how curriculum in degree programmes and courses can create these cultural environments.

Despite the shortfalls, these theories confirm the importance of culture promotion in facilitating incorporation of entrepreneurship curriculum in degree programmes and courses. The next section discusses theories on the role of competence development strategies in supporting students.

2.4.7. The Role of Competence Development in Supporting Students

While literature covers a wide range of theories that inform the role, competence development play in supporting students, this review primarily focuses on the experiential learning theory and the theory of knowledge generation.

2.4.7.1. Experiential Learning Theory

The study was also influenced by the experiential learning theory. This theory was originated by Zais’s (1976) and has subscribers. A more recent adaptation was done by Wee (2004) who proposes that knowledge is transmitted through transformation of experience. This process starts from active experimentation in classroom settings and moves to concrete experiences that test new situations. Through the learning process learners carry out activities, formulate questions, solve problems and create meaning from experiences. The theory also asserts that experiential learning is holistic and supports students to combine cognition and experience. Through this
process, entrepreneurship students can formulate ideas and reform them through experience. This theory contributed to the study by informing that a curriculum must generate knowledge that is transformed into entrepreneurship actions through experiences. Despite its contributions, this learning theory is criticised by theorists like Jones (2010) who assert that the theory is limited in explaining the nature of experiences that effectively convert created knowledge into opportunity search, discovery and creation.

2.4.7.2. The Theory of Knowledge Generation

The study was also influenced by the theory of knowledge generation. The precursor of the theory was Walton (1971) and has many adaptations. A more recent application in the field of entrepreneurship was done by D’Este and Patel (2007). The theory informs that collaboration between universities and industry is an instrument for entrepreneurial strategy, innovation and knowledge transfer. D’Este and Patel (2007) propose three facets. One facet of the theory informs that formation of strategic partnerships that span into many organisations embracing private business enterprises, public sector organisations and universities facilitate knowledge creation. Another facet of the theory explains the importance of knowledge that is generated from outside organisations’ boundaries and fed into them. This facet also asserts that research and development activities that take place in industries and universities require integration of knowledge from various sources of knowledge outside the boundaries of these institutions (D’Este and Patel, 2007). The other facet of the theory informs that research collaboration is an instrument for addressing market related innovation challenges. The theory asserts that promoting collaborative research among universities and industry benefits industries by addressing innovation related market challenges.
This theoretical framework has examined the equilibrium destruction theory, opportunity discovery theory and opportunity creation theory. The theories illuminate the nature of the entrepreneurship curriculum and how it can be infused into degree programmes. However, the theories left a gap of how the implementation of the curriculum can be facilitated across all programmes. Theories that explained the underlying variables that drive the curriculum into opportunity discovery and creation were therefore examined. Next are studies that provide evidence on the applicability of opportunity discovery and creation theories and how incorporation of the curriculum into degree programmes can be facilitated.

2.5. Review of Empirical Studies

This section of the chapter reviews studies that provide evidence to claims made by the theories. The section starts with studies on application of opportunity discovery and creation. It will then move on to review sets of studies done each of the underlying variables.

2.5.1. Application of Opportunity Discovery and Creation

The following four studies by Urwyler (2006), Vaghely and Julien (2010), Parker, (2014) and Ojala and Puhakka (2013) show how opportunity discovery and creation theories were applied in venture creation.

First, the study by Urwyler (2006) demonstrated how opportunity discovery theory was applied in the formation of companies. The study investigated cases of how three software companies started. The companies produced ICT products for corporate customers in telecommunications.
and financial sectors in Switzerland. The study used the case study methods to select the cases, generate data and conduct data analysis. Participants were selected using stratified sampling in which different people with different functions were interviewed. These included CEOs, board of directors, sales managers and salespersons. In-depth interviews, document reviews and participatory observations were used. Participatory methods were integrated into the case study approach in order to interpret data and events that the subjects had experienced. Grounded theory was used to analyse data through the examination of meaning and coding. During data analysis, replication of multiple case studies was used where each case was first analysed independently and afterwards a cross section analysis was carried out.

The review focused on the following findings. Results show that at inception, the company owners had limited knowledge of markets and customer problems. Opportunities were developed while the companies were being formed. The study also established that interacting with potential customers and receiving information from third parties led to identification of project opportunities. Results show that through ongoing processes of opportunity identification and exploitation, knowledge about customer markets and how to serve the customers evolved. Results show that even if project opportunities and potential customers were identified and evaluated, intensive efforts were still carried out to build customer confidence. Results show that it was not just one particular entrepreneurial opportunity out of which companies were built but several. Both active search and coincidences contributed to the identification and exploitation of project opportunities. This study demonstrates that both theories can be applied simultaneously. The study also shows that company formation is a practical process that can be incorporated into
degree programmes. When compared to this thesis, the study has weaknesses in that the study used case study methods and its results cannot be generalised.

Another study was done in France by Vaghely and Julien (2015). The study was a case study that investigated how entrepreneurial opportunities and networks developed and influenced each other in company formation. The study used a sample of three cases of university students engaged in entrepreneurship activities at the campus and through social interaction, complemented their ideas. Case A was involved in printing and advertising services for students. Case B was involved in the production of electronically managed receipts, while Case C was involved in pharmaceutical brokerage and consulting services. Entrepreneur A stumbled upon a new idea to print a new product. After discussion with entrepreneur B, they created an idea to digitalise the product. Entrepreneur C was an advisor who further developed the new idea by fitting the two initiatives during a classroom discussion.

The review focused on the following findings. Results show that the initial opportunity changed significantly during the process before the entrepreneurs agreed upon the final business concept and strategy. The opportunity was not only found but created. Results show that through their actions, the entrepreneurs progressively created the final opportunity. Results also show that the idea of the new product and the desire to target students existed long before the entrepreneurs networked, yet the entrepreneurs’ ability to interpret, combine the ideas and advance the concept was what eventually created the opportunity. This study demonstrates that opportunities that existed objectively were recreated through social interaction. An initial opportunity was discovered by one entrepreneur and then developed with the help of others through redefining.
The study therefore informs that opportunities for university students are embedded in existing social structures but students have to engage in networking activities and social interaction to fully develop the opportunities.

Another study by Parker (2014) was conducted in Mexico. The study used case study methods to investigate how social entrepreneurs created their ventures. The study used a population of social entrepreneurs in Mexico. Researchers first contacted 115 social entrepreneurs, from whom 74 accepted to participate, representing response rate of 64%. Out of the 74, entrepreneurs, 62 usable responses were obtained. The study developed an instrument to measure two dependent variables of opportunity discovery and creation and eight independent variables that included information search, pre-existing business solutions, perception of the environment, social network diversity, fear of failure and combination of resources. Based on a five point Likert scale, a questionnaire was designed.

Results from the questionnaire were used to produce 35 items that were then used to design a semi-structured interview instrument. Semi-structured interviews were administered to 13 social entrepreneurs. Selection of social entrepreneurs for interviews was done using snowballing and purposive sampling starting with an incubator at a major university in Mexico City. The interviews were administered face to face and electronically via telephone and Skype. Responses were coded and analysed using multivariate techniques that included factor analysis, normality tests and Pearson correlation. Two simultaneous equations were developed to test their hypothesis: one on opportunity discovery and the other on opportunity creation. Results from this study are many. However, the review focused on the following. The study established none
interdependency of opportunity discovery and opportunity creation. Results show that both processes were present in the same entrepreneur. Results also show that some social opportunities came out of a combination of processes of discovery and creation. For example, there were some social entrepreneurs who searched for information but afterwards, transformed and adapted the opportunities to suit community needs. Results established that while some social entrepreneurs presented a mixture of discovery and creation, the majority had a tendency to either create or discover while a few presented a balance of both processes.

The study was important in that it established constructs to measure opportunity discovery and opportunity creation and distinguished social opportunities from commercial opportunities. The study tested a hypothesis that laid a foundation for further research on opportunity discovery and creation in social entrepreneurship. The study is relevant in curriculum formation in degree programmes because it demonstrates that all degree programmes can help students discover social opportunities and develop the opportunities into commercial ventures. However, the study was limited in identifying the population of social entrepreneurs in Mexico as only 115 were approached and only 74 accepted. Due to none probability sampling that was used, it is not possible to project results to the whole population. The sample size, therefore, did not represent the population of social entrepreneurs in Mexico.

A more recent study by Ojala and Puhakka (2013) investigated how opportunity discovery and creation were applied during formation of cloud computing firms in Finland. The study was a multiple case study of four cloud computing firms. The software firms A, B, C and D were service providers in the cloud computing industry in Finland. Multiple sampling criteria were
used to select the cases. The sampling procedure ensured that firms selected were old and new and developed cloud services for different industries. The case study method ensured that real life experiences with instances of opportunity recognition were studied. The study used in-depth interviews to generate data from the firms’ CEOs, sales managers, board of directors and software engineers from each firm. Semi-structured interviews were first used to generate overview data on the firms’ products, customers and business models. Subsequent phases of the interviews focused on opportunity recognition in more detail. Telephone and e-mail communication was used to follow up and clarify inconsistent issues. Informal discussions with interviewees were also conducted during spare time seminars where more data were generated. Data analysis used content analysis. This involved data reduction, data displays, verification and triangulation.

Results show that Firms A, C and D either used opportunity discovery and opportunity creation while firm B followed opportunity discovery to develop new cloud computing services. Results show that the founder of firm A had been dissatisfied with existing products in the market. Prior knowledge and experiences in the telecommunication market, therefore, led to the discovery. Founder of firm C followed opportunity discovery based on customers’ needs and discovered a solution to the needs. This discovery opportunity was therefore based on alertness rather than on active search. The founder of firm D got the idea for the product from previous employer. However, using active search and prior knowledge, the entrepreneur discovered an opportunity to focus on one specific industry. Cases A, C and D therefore followed the path of opportunity discovery. They saw a clear demand in the market for a product that they were able to provide. The opportunity recognition of founder of firm B created an opportunity. Working
collaboratively with colleagues, the entrepreneur used prior knowledge and imagination to create a product even though there was no demand for the product. They acted in a state of uncertainty as the market did not exist and technology that would enable usage of the product was uncertain. This study demonstrated how opportunity discovery and creation were applied in venture creation. Results from the study demonstrate that degree programmes can provide students with prior knowledge that can lead to discovery. Degree programmes can also develop alertness and imagination in students leading to discovery and creation of new products and services. When compared to this thesis, the study had shortcomings of only using case study methods and therefore its results cannot be generalised as they are confined to the entrepreneurial context of cloud computing.

All the four studies are similar in establishing how opportunity discovery and creation are applied in venture creation. All studies establish that opportunities are not only found but created. Urwyler (2006) and Vaghely and Julien (2015) results are similar in establishing that opportunities exist objectively embedded in existing social structures and recreated through social interaction. Both studies show that opportunities are discovered and then developed through redefining, acting and reacting. Parker’s (2014) results are different from others in that they established constructs for measuring opportunity discovery and opportunity creation. They differ in distinguishing social opportunities from commercial opportunities. Ojala and Puhakka’s (2013) study went further to demonstrate how prior knowledge can lead to attributes of discovery, alertness and imagination. All the studies lay the foundation of how entrepreneurship curriculum can be a lifeline of all degree programmes. When compared to this thesis, the studies have limitations of using methodologies that cannot be generalised from opportunity creation and
discovery for company formation to formation of degree programmes. The studies, therefore, left a gap on how entrepreneurship curriculum in degree programmes can be reformed to facilitate discovery and creation of opportunities for venture creation. The studies focused on company formation and left out gaps on implementation of the curriculum in degree programmes. The study sought to fill these gaps by providing evidence for the application of opportunity discovery and creation in entrepreneurship curriculum formation. The next section turns to studies on the application of underlying variables in entrepreneurship curriculum implementation.

2.5.2. The Role of Strategy Formulation
While literature covers a wide range of studies that explain the role strategy formulation in incorporating entrepreneurship curriculum in degree programmes, this section primarily focused on three global studies, three from USA, five from Europe, two from UK, two from North Africa, three from West Africa, five from East Africa, two from South Africa and three from Zimbabwe. While the studies were many, these were the studies that influenced the study most.

2.5.2.1. Global Studies on Curriculum Implementation Strategies
The following three studies by Hanage (2008), Wilson (2014) and Mwasalwiba (2010) are global studies that evaluated strategies for entrepreneurship curriculum implementation in degree programmes and courses. The global study by Mwasalwiba (2010), evaluated teaching strategies used by universities that had degree programmes in entrepreneurship. The study’s population of universities were drawn from the top 50 universities on world rankings. From these universities, the study drew a purposive sample of universities that offered degree programmes in entrepreneurship. The study generated data from academics that taught entrepreneurship degree
programmes in these universities. Due to the geographical dispersion of the universities, the study relied on data from questionnaires emailed to respondents and from interviews conducted through video conferencing and Skype.

The results established that curriculum design and implementation in programmes were guided by entrepreneurship visions and missions. Results also established that there were strategic variations from region to region and from institution to institution. The study also established that strategies for curriculum reform were stakeholder driven and centred on integration, entrepreneurship culture, competence development and student support. This study contributes to the understanding that entrepreneurship curriculum is developed through knowledge discovery from socio-economic issues and labour market demands. The study demonstrated how strategy formulation is critical in entrepreneurship curriculum implementation. The study was underpinned by the theory of curriculum change and innovation in universities (Walton, 1971). The theory informs that strategies for refining entrepreneurship curriculum be stakeholder driven responding to labour market forces. When compared to this thesis, the study has weaknesses in that the sources of data were limited to website data and e-mailed questionnaires. Email questionnaires had loopholes of authenticity and were only accessed by university staff whose emails had been provided to researchers. This affected validity of the study. The researcher did not visit the institutions to follow up on issues and to verify data. The researcher relied on following up issues through Skype without visiting the institutions.

Another global study by Wilson (2014) evaluated implementation strategies in universities across the world. The study conveniently sampled universities from regions in North America,
Latin America, Asia, Europe and Africa using website data. The sample was made up of universities that had entrepreneurship degree programmes and were affiliated to the Global Entrepreneurship Monitor. The study generated data using questionnaires that were emailed to heads of departments, faculties and programmes. Interviews were conducted through Skype and in some cases video conferencing was used.

This study established that universities were turning ‘entrepreneurial.’ Curriculum in degree programmes and courses was characterised by hands on activities, student support and university industry and business partnerships. In developed regions, curriculum was driven by entrepreneurial visions and missions from which departments drew core values and objectives. The study established that in developing countries, entrepreneurship degree programmes were modularised with no entrepreneurship missions driving their curriculum. The study established that in all degree programmes, strategies were reinforced by government policies and had synergies with business, industry and none governmental organisations. The study was underpinned by the theory of curriculum change and innovation in universities (Wee, 2004; Vanevenhoven, 2013). The theory informs that curriculum change and innovation in degree programmes arise from academic disciplines through knowledge discovery and establishment of new concepts. When compared to this thesis, the study had weakness of overreliance on website data and e-resources. Data generation did not follow up to verify or validate findings. The study used case study methods and therefore its results cannot be generalised.

Another global study by Hanage (2010) evaluated strategies that universities used in implementing entrepreneurship curriculum in their degree programmes and courses. The study
was a case study whose population of universities was global. The sample was purposive, covering universities in the world that had entrepreneurship degree programmes on offer. The study used convenient sampling to identify lecturers, chairpersons and deans representing faculties and departments in sampled universities. The study used data generated through the e-mailed questionnaires and video conferencing with its participants. Review of website data on programmes and courses was also done.

The study established that curriculum in degree programmes and courses was driven by strategies, teaching methods and student support strategies driven by university mandates. The survey also established that in science, technology and engineering degree programmes, multidisciplinary knowledge generation and transfer strategies were used. Examples given were innovation activities by academic departments collaborating with industry and business and of students and lecturers working collaboratively in interdisciplinary groups. At some universities degree objectives were realigned to entrepreneurial visions and missions which formed the basis for the implementation strategies. Results from this study are many. However, the review focused on the following findings. The study was underpinned by the theory of entrepreneurial strategy and knowledge generation (Beauchamp, 1975). The theory says that entrepreneurship curriculum must be shared by all stake holders and must emanate from structures, deliberately formed to harness external resources and to provide platforms for exchange of knowledge. When compared to this thesis, the study’s main weakness was that it generated data through e-resources and did not provide opportunities for the researcher to visit universities to validate data.
The results from all the studies are similar in establishing that curriculum design and implementation were driven by entrepreneurial visions and missions which formed the basis for implementation strategies. The results are also similar in establishing that the curriculum was hands on, with student support driven by university, industry and business partnerships. However, Wilson’s (2014) results differ in establishing that in developing countries, curriculum in degree programmes was modularised with no entrepreneurship missions driving it. Other differences are that while Hanage (2010) established that multidisciplinary knowledge generation and transfer strategies revolved around collaborating science, technology and engineering programmes, Mwasalwiba (2010) established that strategies revolved around integration, entrepreneurship culture, competence development and student support. These studies are different from this study in that they only used case study methods while this study used mixed methods.

2.5.2.2. Evaluation of Implementation Strategies in Universities in USA

The three studies by O’Connor (2010), Solomon (2013), and Katz (2013) evaluated curriculum implementation strategies in degree programmes in the USA.

A study by O’Connor (2010) compared implementation strategies by universities in USA. The study was a descriptive survey that studied universities in the USA that had entrepreneurship degree programmes and courses. The study used a proportional random sample that represented the number of universities in each state. Data was generated from lecturers, chairpersons and faculty deans. The questionnaire was the main data collection instrument supported by interviews, programme regulations and course records. The study used descriptive statistics to describe and compare data on programmes, courses, content and teaching methods. The findings
established trends where content of entrepreneurship curricula took several dimensions from state to state and from university to university.

The study established that curriculum formation in 70% of degree programmes comprised of components categorised as processes, academic and active curriculum. Results show that curriculum driven by process strategies engaged students in processes of opportunity recognition, enterprise creation and product innovation. In programmes driven by academic strategies entrepreneurship curriculum was seen as a field of study integrated into programmes and courses of other disciplines. Results from this study are many. The study established that curriculum in 95% degree programmes were driven by strategies that prioritised experiential learning. Experiential strategies prioritised innovation, knowledge transfer and commercialisation. These results are important in that they show that entrepreneurship curriculum emerge as new knowledge created by lecturers through research and responding to demands from the labour market. These results informed that strategy formulation is an important variable in curriculum implementation. The study was underpinned by the theory of curriculum change and innovation in universities (Walton, 1983; Wee, 2004; Vanevenhoven, 2013) which posits that entrepreneurship curriculum must emanate from knowledge progression within disciplines.

When compared to this thesis, the study had shortfalls in that it was limited to survey methods. There was no data generation through interacting with the subjects which could have contributed into in-depth insights.

A study by Solomon (2013) evaluated curriculum implementation strategies by universities in USA. The study was a national survey whose population comprised of all state universities in
USA. The purpose of the study was to evaluate strategies that universities used to implement entrepreneurship curriculum in their degree programmes and courses. The study used a random sample of universities. At each university lecturers that represented each degree programme were sampled. Data was generated from graduates who were randomly sampled form the alumni database. Questionnaires were administered to graduates while interviews were administered to lecturers.

Data from the students established positive correlation between student support and entrepreneurial outcomes. For example, graduates who acknowledged satisfaction with student support also acknowledged positive entrepreneurial outcomes. All graduates acknowledged that their degree programmes supported them with opportunities for knowledge transfer, research and innovation and spin offs. The study also established that degree programmes that had entrepreneurship courses provided platforms for incubation and commercialisations. The study was driven by the theory of entrepreneurial strategy and knowledge generation (James and Brookfield, 2014; Siok, 2014). The theory informs the study that entrepreneurship curriculum is a process of open knowledge transfer from universities into business and industry. These results are important because they inform the study that curriculum is formed through collaboration with various stakeholders. When compared to this thesis, the study had shortfalls in that its population only covered state universities and its results cannot be generalised to other universities. The study’s methodology had shortfalls in that it used questionnaires and interviews whose data was not triangulated.
A study by Katz (2013) evaluated curriculum implementation strategies in degree programmes in universities in the USA. The purpose of the study was to evaluate the extent to which universities were turning entrepreneurial. The study’s population were all universities in USA that had entrepreneurship studies. The study used a random sample of ten universities. The study used questionnaires administered to lecturers representing all programmes. The instrument was based on national quality assurance benchmarks, and the global entrepreneurship monitor.

The study confirmed that universities were turning entrepreneurial within the confines of their mandates. Data show that 85% of degree programmes and courses were driven by entrepreneurship goals with content aligned to teaching strategies. Data also show that entrepreneurship curriculum was in 90% of the degree programmes. Of this 86% was organised as courses with practical activities, research and community outreach. The study established that in programmes that had entrepreneurship courses and activities, 90% of their entrepreneurship objectives focused on research and development, information and technology development and exchange of scientific knowledge with firms, and industries.

These results are important in that they demonstrated that implementation strategies emanate from programmes as lecturers design and refine the curriculum. The study was driven by the theory of curriculum change and innovation in universities (Wee, 2004; Vanevenhoven, 2013) that informs that curriculum arises for knowledge progression within degree programmes and that it is shaped by lecturers through responding to demands from the labour market. When compared to this thesis, the study had methodological limitations in that it relied on data from programme representatives deliberately supplied by the universities. Hence could have been
biased. The study also relied on documentation of programme manuals with no follow with interviews and observations to verify implementation activities. The sample did not include students. Results therefore lacked validity and were limited to universities in USA.

While the studies might have used almost similar methods, their results show differences. Their results differ in establishing different configurations of entrepreneurship curriculum. For example, O’Connor (2010) established configurations categorised as processes, academic and experiential while Solomon (2013) established configurations of student support for research, innovation and spin-offs. Katz (2013) established configurations driven by entrepreneurship goals with content aligned to various teaching strategies such as community outreach, research and development, information, communication and technology development and knowledge transfer with business, industry and government.

2.5.2.3. Evaluation of Implementation Strategies in Universities in Europe


A study by Jones and Iredale (2010) evaluated implementation strategies by universities in Europe. The study was a descriptive survey whose population were all universities in the EU. The study’s main focus was on evaluation of curriculum content, teaching strategies and objectives in courses. The study used a systematic random sample of universities drawn proportionally from fifteen countries. Data was collected using questionnaires administered to
lecturers from each programme offered by the universities in the sample. Data from questionnaires was supplemented with data from programme objectives and regulations.

The study established that all course objectives were cascaded from university mandates that derived entrepreneurship goals from the national core objectives. The study established that pedagogy in 95% of the courses was influenced by entrepreneurial goals and objectives. The content in 95% of the courses had practical activities where students were engaged in enterprising experiences. The study established that 80% of entrepreneurship courses were diffused into various disciplines outside their parent programmes. Objectives in 75% of the courses sought to achieve holistic learning driven by entrepreneurship culture and action. The study established that curriculum in 80% of the courses was influenced by external stakeholder input and stressed on formation of SMEs. The study was driven by the Macdonald's partnership model (Wheeler, 1967; Rae, 2010) which informs that entrepreneurship curriculum must not be restricted to single disciplines but must be cascaded into other disciplines. The theory also informs the study that the national core curriculum, industry and commerce influence design and implementation of entrepreneurship curriculum in degree programmes. The study’s main weaknesses were that its sample did not include students, graduates and key informants from industry and commerce. Results, therefore, lacked validity. The study is different from this study in that it relied on the questionnaire and the researcher did not follow up with interviews to triangulate data.

A study by Morris, Webb, Fu, and Singhal (2013) evaluated curriculum implementation strategies used universities in the UK. The study used a population of all universities in the EU.
The study drew a random sample of 15 universities. The study used questionnaires to collect data from lecturers that represented each programme in sampled universities. Interviews were administered to deans and chairpersons using video conferencing.

Results show that in 68% of the universities, the mode of delivery of entrepreneurship curriculum was similar across all disciplines. All universities had structures and centres that helped business and industry gain access into activities in degree programmes and courses. In 90% of universities there was specialised entrepreneurship content for science and engineering students. In 60% of the universities commercial studies were introduced to science and engineering disciplines while students in commercial disciplines were introduced to situations in technical fields. In 85% of universities tailored content was extended to none business disciplines where intellectual property, commercialisation, marketing and venture creation was prioritised. However, the study found that in 76% of universities, entrepreneurship courses and programmes were housed in business and economic faculties with only 30% of spin-offs coming from applied sciences. These results show that strategy formulation encompasses designing teaching delivery, content and organisational structures. The study contributed by arguing that curriculum in degree programmes must be anchored to structures that engage external stakeholders in resource mobilisation and transfer of knowledge. The study established that entrepreneurship curriculum in degree programmes must act as a platform for exchange of knowledge among students, academics and captains of industry and commerce. The study was driven by the theory of entrepreneurship strategy and knowledge generation which informs that curriculum must provide platforms for exchange of knowledge between academic departments and related sectors in industry and commerce. The theory informs that all degree programmes must use strategies
for implementation that are shared by all stakeholders. However, the sample of respondents did not include students, graduates and representatives from industry and commerce. The major weakness that makes this study different from this study is that the researcher relied on questionnaires and video conferencing without visiting universities to validate findings. Results therefore lacked objectivity.

Parker (2013) studied private and public partnerships in developing entrepreneurship curriculum in universities. The study’s focus was on how universities’ strategic linkages with external partners influence curriculum design and implementation in degree programmes. The study’s population were all universities in the European Union. The study used purposive sample of universities that offered entrepreneurship studies either as degree programmes, courses or extra curricula activities. The study used case study methods to generate data from lecturers, chairpersons and deans who were involved in entrepreneurship studies. The study also generated data from representatives of business, industry and the public sector.

Results show that universities reformed curriculum in degree programmes through strategic partnerships with public and private enterprises on a win-win basis. Results show that lecturers contributed to the development of businesses and firms by generating knowledge for transfer to enterprises. These enterprises in turn supported curriculum development in degree programmes by providing technical and experiential expertise. The study also established that some degree programmes engaged entrepreneurs and business leaders as mentors and advisors. These assisted in building incubators, new entrepreneurship courses and attachment programmes. Results of the study are important in that they established the importance of stakeholder involvement in
curriculum design and implementation. The study recommended a curriculum that is driven by university and industry strategic partnerships. The results confirm the role of strategic partnerships in universities and enterprise development. When compared to this thesis, the study’s main weaknesses were that it used case study methods and therefore its results were confined to universities that were studied. Its results cannot be generalised to other universities.

A study by Blenker, Dreister and Nielsen (2015) evaluated effectiveness of implementation strategies by universities in USA. The study’s’ purpose was to evaluate effectiveness of strategic partnerships that universities formed with business and industry. The study was a descriptive survey that used a population of all universities in the USA. The study drew a random sample of 15 universities. The study collected data from a sample that comprised of deans and heads of departments. The study assessed effectiveness of university and industry linkages in entrepreneurship curriculum design and implementation.

Results show that all universities were in strategic partnerships that varied from university to university. Results show that no university had more that 60% of its degree programmes connected to the partnerships. Results also show that programmes that were actively involved in partnerships were in business and science, information and communication technology and engineering faculties. The study also established some constraints to effective university and industry partnerships. In 90% of the programmes experienced entrepreneurs and captains of industry were unwilling to commit themselves into university teaching due to lower remunerations in universities. All programmes had benchmarks that did not accept entrepreneurship experience as a qualification entry into entrepreneurship curriculum design and
teaching. The study established that in 95% of the programmes, no lecturers ventured into the world of business. The few who had done so were forced by universities’ inability to meet their individual aspirations. Results contribute to the study by illustrating how development and implementation of entrepreneurship curriculum can be facilitated by university, business and industry partnerships. This study was driven by Macdonald’s partnership model that illustrates the role of strategic partnerships in curriculum implementation. The study was also influenced by the theory of entrepreneurial knowledge generation that illustrate that entrepreneurship curriculum is developed using knowledge generated through research collaboration among university academia and the enterprise world (James and Brookfield, 2014; Siok, 2014).

However, respondents were heads of departments whose data was not triangulated with data from students, lecturers and other stakeholders. When compared to this thesis, the study’s methodology had shortfalls in that it only used questionnaires and published source documents with no follow-up and validation of findings through interviews and observations. The results were, therefore, biased.

A survey study by Etor and Akpama, (2014) evaluated curriculum implementation strategies in degree programmes in universities in France. The study used a population of all universities in France. The study used a random sample of 10 universities. Questionnaires were used to collect data from lecturers and students from all degree programmes offered at sampled universities.

The study established that entrepreneurship content in 90% of programmes and courses was tailored to suit fields that housed the programmes and courses. In 40% of these programmes curriculum was tailored to specific needs of different categories of students. The study
established in 80% of the programmes, the strategies promoted interdisciplinary curriculum. For example, students from economics shared a curriculum with students from engineering and sciences. The study also established that entrepreneurship curriculum in all science and technology programmes promoted intellectual property, spin offs of high tech-ventures. These results contribute towards development of strategies that are interdisciplinary and stakeholder driven. The study was driven by the theory of curriculum change and innovation. The theory informs the study that entrepreneurship curriculum in degree programmes evolve from each academic discipline through knowledge discovery and refining of teaching strategies by lecturers and students. The theory also informs that lectures are creators of the entrepreneurship curriculum and that they create it in response to labour market demands and students’ interests. However, the study had shortfalls in that its population excluded external stakeholders from industry, commerce and government. The study focused on content and teaching strategies and excluded impact evaluations. When compared to this thesis, the study’s main weakness was that it used questionnaires that were not corroborated with other instruments to ensure reliability. The sample only included students and lecturers in programmes understudy. Its results were, therefore, biased in favour of degree programmes covered by the study.

This section reviewed studies from Europe. Results from the studies are similar with results from USA in that they saw curriculum as a culmination of objectives from university mandates, visions, goals and missions. Results are also similar in that they established that the curriculum is driven by experiential activities. Results in studies from Europe show similarities in configurations. For example, there are findings where the same curriculum was diffused as courses into various disciplines outside the parent programme. In some cases, the same content
was tailored to suit programmes and courses that receive it. In some cases, the curriculum was similar across all disciplines with structures and centres that helped businesses and industries gain access into university activities. In some cases, the same curriculum had specialised content for science, engineering and commercial disciplines. However, results show differences in the way the curriculum was reformed. Morris, Webb, Fu, and Singhal (2013), recommend for curriculum reform through specialised entrepreneurship content for science, engineering and commerce. On the other hand, Parker (2013) recommend for curriculum reform through strategic partnerships with public and private enterprises on a win-win basis. Blenker, Dreister, Nielsen (2005) recommend for reforms that are done through strategic partnerships in science, engineering, information and communication technology. Etor and Akpama (2014) also recommend for content to suit fields that house respective programmes and courses. Despite these differences, all the studies made a major contribution to strategy formulation.

The following six studies by OECD (2012), Smith, Flowers and Larkin (2009), NIRAS (2012), Pittway and Cope (2014), Cooper and Lucas (2014) and Matlay (2009) focused on strategies that used support services and benchmarking.

The first study is by OECD (2012). It evaluated effectiveness of support strategies to capacity lecturers involved in curriculum design and implementation. The study used case study methods. The study’s population were lecturers who taught programmes and courses in universities in OECD countries. The study used a purposive sample of universities that had entrepreneurship degree programmes. Data was generated from lecturers who taught entrepreneurship courses and some who designed the curriculum.
The study established that universities had centres that acted as mechanisms for universities to harness resources from business and industry. The study established that centres acted as platforms for the external stakeholders to gain access to expertise from universalities. The study established mechanisms deliberately created for the partnerships to promote mobility of lecturers between universities, business and industry. Mobility mechanisms allowed lecturers to take part in commercial activities in local enterprises. The study also established that for some programmes, lecturer mobility strategies were funded by the state as sabbatical incentives. In some universities, lecturers were given one semester off for test and apply their innovations in industry at the same time acquiring practical experience. The study established that income programmes, lecturers utilised laboratories in universities and industry to develop their research based ventures. The study discovered cases where university professors participated in boards of business enterprises. Results from this study contributed to knowledge on the role of support services for lecturers who design and implement entrepreneurship curriculum in degree programme and courses. The study was driven by the strategy component of the theory of entrepreneurial strategy and knowledge generation. The theory informs that centres facilitate knowledge generated form entrepreneurship curriculum to businesses and industries. However, the study’s sources of data did not include key informants from external stakeholder organisations. When compared to this thesis, the study had methodological limitations of only using survey methods without following up on issues that needed in-depth analysis.

The second study was done by Smith, Flowers and Larkin (2009) evaluated curriculum implementation strategies used in degree programmes at the University of Cambridge. The study
was a case study that used interviews, questionnaires and document reviews. Data was generated from a purposive sample of lecturers and key informants from business and industry. Data was also generated from entrepreneurs who were engaged in developing courses. Document reviews were conducted on course outlines, programme policies and regulations.

Results established that over a period of six years a panel of 2000 entrepreneurs and business experts were involved in developing and evaluating entrepreneurship curriculum in courses. The universities trained high profile entrepreneurs who came back to universities to input into entrepreneurship teaching activities. The study established that all programmes fed into a foundation that organised seminars for training entrepreneurs to mentor in entrepreneurship courses. Results from this study contributed to formulation of strategies where lecturers, active entrepreneurs and experts from business and industry actively participate in development and transformation of entrepreneurship curriculum. The study was driven by the theory of entrepreneurial strategy and knowledge generation that asserts that people are a critical variable in curriculum development and implementation. The theory proposes that curriculum development be driven by expertise from within and outside university academia. When compared to this thesis, the study had methodological limitations in that it was a case study whose results were confined to the University of Cambridge without generalisation to other universities. The study’s population did not include students and therefore left out clientele input.

A comparative study by NIRAS (2012) evaluated support programmes for entrepreneurship students at universities in Germany, Finland and Spain. The study was a multiple case study of three universities each drawn from each of the countries. The study’s population at each of the
three universities were made up of students, lecturers, deans and administrative staff responsible for students’ services. The study generated data using questionnaires administered to students and in-depth interviews administered to key informants. The study used source documents and records that were accessible. The same methodologies were used at all universities. Results show that at the Technical University of Munich in Germany there were partnerships between the Ministry of Economic Affairs and the Ministry of Higher Education and Technology.

The study established that the partnership programme promoted a platform that supported students who wished to translate their ideas into business plans. The programmes provided seed capital for start-ups. Results show that external stakeholders used the programme to interact with students. The study was important in that it established the role of national core curriculum driven by stakeholders with room for adaptation by specific degree programme and courses. The study also demonstrated the importance of combining university infrastructure with external resources to support knowledge generation and transfer by students.

At the University of Helsinki in Finland, the study investigated partnerships between the Ministry of Economic Affairs and the university. The ministry supported a start-up project providing financial assistance for starting small businesses by science and technology students. Through the programme viable projects were identified and funded to commercialisation. The study show that students can be supported to develop original business ideas into start-ups, science and technology ventures and small businesses through a government programme in partnership with faculties or degree programmes. The study also demonstrated the importance of
combining university infrastructure with external resources to support knowledge generation and transfer by students.

At the University of Catalonia in Spain, the study established that the government supported a programme that harnessed innovative ideas from students into venture creation. The programme targeted all programmes. The study established that in addition to science, engineering and technology programmes, the programme supported students with ventures in creative, media studies, arts, music and sports fields who were identified and supported into commercialisation. These results show that government programmes can support students from all degree programmes. Results from these cases were influenced by the Macdonald’s partnership model that demonstrated the role of external stakeholders in shaping entrepreneurship curriculum. The studies contributed to the understanding that entrepreneurship curriculum is not only confined to delivery of content and teaching methods originating from respective lecturers. Instead, the study argues that the curriculum must be facilitated through student support services driven by input from all university functionaries and stakeholder partnerships. The study’s main weakness was that it was a multiple case study whose results can be generalised. The next two studies from Japan and German focus on support strategies for incubation.

A case study by Pittway and Cope (2014) assessed the effectiveness of student support services at Meiji University in Japan. The purpose of the study was to evaluate effectiveness of incubators, start-ups and spinoffs. The study’s population were undergraduate students in all programmes and graduates engaged in start-ups, and incubators. The study’s population also included lectures in the programmes. The study used purposive sampling methods to sample
graduates who had benefited from spinoffs supported by the university. The study used a purposive sample of students who were engaged in start-ups and incubators. Questionnaires were used to generate from students while interviews were administered to graduates.

The study found out that the majority of students doing entrepreneurship courses and programmes were in need of extra curricula support activities. Results show that students preferred support from incubators and start-ups as it provided opportunities for turning business ideas into SMEs. The study established that incubators and start-ups were not available to students at all levels and disciplines. The study found out that start-ups and incubators acted as platforms for exchange of knowledge with business and industry. Results from graduates show that some degree programmes established business incubators outside university boundaries. The incubators were accessible to all members of the public with university students and graduates linked to them. These results are important in that they argue for use of incubators and start-ups to support students and to facilitate knowledge transfer between universities and the external environment. The study was driven by the theory of entrepreneurial strategy and knowledge generation. The theory asserts that universities must establish partnerships with business and industry where students are supported to generate and transfer knowledge to start-ups. However, the study’s sample did not cover key informants from commerce and industry. When compared to this thesis, the study had shortfalls in that it was a case study bounded by time and space and therefore its results cannot be generalised.

A study by Cooper and Lucas (2014) at the University of Regensburg in Germany assessed the impact of student support services on commercialisation of new technologies. The study used
case study methods. The study’s population were made up of university students, lecturers and key informants from the public sector, business and industry. Lecturers and students were selected from degree programmes and courses that had activities on commercialisation. Students and lecturers were selected using a stratified random sampling that covered all levels of programmes. Purposive sampling was used to select key informants. The study used in-depth interviews to generate data from key informants and semi-structured interviews on lecturers. Questionnaires were used on students.

The study established that all programmes had mechanisms for managing intellectual properties developed from students’ research projects. Results show that intellectual property support services contributed to the development of 90% of the start-ups from the programmes. Results show that support from degree programmes helped students and lectures to commercialise their academic and research work into ventures. The study argued that support services for commercialisation contributed to formation of scientific labs partnering with business and industry. The study contributed to this study in that universities infrastructures and organisational structures can interconnect with external stakeholders to support students. These results also contributed to this thesis by establishing that support for commercialisation facilitate knowledge sharing between universities, business and industry leading to formation of new ventures. The study was influenced by the theory of entrepreneurial strategy and knowledge generation. The theory emphasised the role of lecturers, students, graduates and captains of industry and commerce in knowledge generation and transfer into commercialisation. However, the study’s weaknesses were that it was a case study and therefore its results could not be generalised to all universities. This study filled this gap by adapting the mixed methods approach.
A study by Matlay (2009) surveyed 20 universities in the European Union that were affiliated to the OSLO agenda for entrepreneurship education. The OSLO agenda was a framework that guided development of entrepreneurial attributes and skills to be developed in degree programmes and courses. These benchmarks, when taken together, contributed towards acceptable entrepreneurial outcomes (EU, 2012). The study was a descriptive survey that sought to describe the state of benchmarking done in the design and implementation of entrepreneurship curriculum in universities affiliated to the OSLO agenda framework. The study’s sample comprised of chairpersons who represented degree programmes in 20 universities. The sample also covered key informants from the OSLO agenda secretariat. The study used a questionnaire as the main gathering instrument. Interviews were used to generate data from OSLO representatives.

The study established that 60% of universities affiliated to the OSLO framework had mechanisms for benchmarking curriculum in degree programmes. The study also established that in 80% of the universities benchmarking covered areas of content, competences, integration, and student support. The study also established that in 80% of the universities there was benchmarking of teaching methods, programme and course structures and profiles of entrepreneurship lecturers. The study established that in 80% of universities, there was benchmarking of mechanisms for start-up centres, technology transfer units and network centres. These results contributed to understanding of the role of benchmarking as a strategy for facilitating curriculum implementation. The study was underpinned by the theory of entrepreneurial strategy and knowledge generation (Beauchamp, 1975). The theory proposes that
universities must have visible structures and mechanisms for design and implementation of entrepreneurship curriculum in degree programmes and these structures must be shared by all stakeholders. The study’s main weakness was that its sample was limited to heads of programmes. The sample excluded lecturers and students who were the main beneficiaries of the programme. This study filled this gap by making lecturers and students the subjects.

This section has reviewed studies on strategies of support services and benchmarking. Their findings have similarities and differences. On support for lecturers, results differ in that the OECD (2012) established that centres were mechanisms to harness resources from business and industry and for these external stakeholders to access expertise from universality. However, Rae’s (2010) results highlight strategies of training high profile entrepreneurs to input into entrepreneurship teaching activities. On strategies for student support, results differ. For example, NIRAS’s (2012) results show government strategies of providing capital for start-ups, small businesses creation by science and technology students and for harnessing innovative ideas into venture creation. Pittway and Cope’s (2014) results recommend for use of feedback from students in developing incubators and start-ups. On the contrary, Cooper and Lucas’s (2014) recommend for strategies of managing intellectual properties. Similarly, Matlay’s (2009) results recommend for support provided to lecturers and students through benchmarking of student support services, teaching methods, start-ups, technology transfer and network centres.

2.5.2.4. Evaluation of Curriculum Implementation Strategies in UK Universities

The following two studies by Kirby (2013) and Collins Hanger and Locke (2014) focus on curriculum implementation strategies by degree programmes in universities in UK.
A survey study by Kirby (2013) evaluated curriculum implementation strategies in degree programmes by universities in UK. The study’s population were all universities in the UK. The study drew a random sample of 10 universities from which lecturers, chairpersons and deans representing each faculty and degree programme were sampled using stratified random sampling. Questionnaires were administered to lecturers while interviews were administered to chairpersons and deans.

The study established that entrepreneurship curriculum either manifested in forms managed by single centres, as standalone degree programmes, courses or was embedded in other disciplines. The study established that lecturers constantly refined curriculum in degree programmes and courses in response to labour market demands and economic interests of students. Results show that entrepreneurship curriculum emerged from individual disciplines and integrated into other disciplines through centres. The study also established that entrepreneurship curriculum existed as extra-curricular activities such as awareness activities, mentoring programmes, start-ups and knowledge transfer partnerships. The study was underpinned by the theory of curriculum change and innovation in universities (Wee, 2004; Vanevenhoven, 2013). This theory proposes that curriculum emerge from knowledge progression within academic disciplines. The theory also claims and that the curriculum is developed through knowledge discovery and establishment of boundaries of curriculum by lecturers. However, the study had some shortfalls. One of its shortfalls was that it relied on survey methods. Its population excluded students and external stakeholders. Only one instrument was used and no follow ups were made to generate data on
issues not covered by the questionnaire. This study filled the gap by employing a mixed methods approach.

The second study is by Collins, Hanger and Locke (2014). It evaluated the impact of government policies on partnerships between universities, NGOs, business and industry. The purpose of the study was to evaluate activities of the UK department of Business Enterprise and Regulatory reform that coordinated an enterprise policy framework for universities. The study purposively sampled five universities that had evidence of programme activities required by the policy framework. The framework required that universities partner with government and non-government agencies in the government policy framework on entrepreneurship in universities. The study used case study methods on a population that comprised of lecturers and key informants form government, NGOs, industry and commerce. The study generated data using in-depth interviews.

The study established that curriculum in degree programmes was driven by pillars of entrepreneurship intent, culture, competence development and support for business start-ups. These results are important in that they illustrate the role of government policies in regulating entrepreneurship curriculum in degree programmes. The study was driven by Macdonald partnership model on curriculum integration. This model emphasise the role of private and public partnerships in the formation of entrepreneurship curriculum in degree programmes. Results from this study are important in that they informed the thesis on the role of the government’s policy in guiding entrepreneurship curriculum design and implementation. However, the study had weakness in that its population did not include students who are the key curriculum
consumers. The study used case study methods which were place and time bound, therefore, its results cannot be generalised to other universities. This study’s population included students and the mixed methods approach used allowed generalisation.

These two studies evaluated curriculum implementation strategies by degree programmes in universities in UK. While the contributions of their findings are in-exhaustible; they depict some similarities and differences. For instance, Kirby’s (2013) results show similarities in configurations of entrepreneurship curriculum in universities in USA and other European countries where it manifested as single centres, stand-alone programmes, courses or extra-curricular activities. However, Kirby’s (2013) results differ with that of Collins (2014) in the way the curriculum was shaped. For example, Kirby’s (2013) findings established that curriculum emerged from individual disciplines and was refined by lecturers in response to labour market demands and students’ interests. In contrast, Collins’s (2014) results show that curriculum emerged from entrepreneurial intentions, culture and support for business start-ups.

2.5.2.5. Evaluation of Curriculum Implementation Strategies in North Africa

The following two studies by Arroyo-Vazquez and Van de Sijde (2013) and Sheta (2012) evaluated curriculum implementation strategies in universities in Egypt and Tunisia and Egypt.

In Egypt an evaluative study by Sheta (2012) evaluated a national programme that benchmarked and coordinated entrepreneurship studies in universities. The programme was developed and pilot tested in core courses of entrepreneurship, innovation, logic and critical thinking. It was then tested in 19 public universities. The study used a purposive sample of 5 universities that had taken part in the first phase of the programme. The study used questionnaires and in-depth
interviews that were administered to lecturers, deans, chairpersons and external coordinators of the programme. Results from this study are many. However, the review focused on the following.

The study established that the programme fostered entrepreneurial cultures across all programmes. Results show that the programme was a mechanism for benchmarking entrepreneurship curriculum for all universities. The study also established that the programme facilitated integration of entrepreneurship curriculum into all programmes. The study illustrates the role of national programmes as strategies for benchmarking entrepreneurship curriculum in degree programmes and courses. The study illustrates the role of external stakeholders in the process of designing curriculum in degree programmes and courses.

The study was underpinned by the Macdonald’s partnership model which illustrates strategies where entrepreneurship curriculum embeds into other disciplines and external stakeholders. The study’s main weaknesses were that it used case study methods which confined the results to universities under study and, therefore, its results were confined to universities studied. The population excluded students and employer organisations who were the main beneficiaries of the programme. The sample frame was biased as it was purposive targeting universities that had pilot tested the programme.

In Tunisia, a multiple case study by Arroyo-Vazquez and Van de Sijde (2013) evaluated implementation strategies at universities of Carthage, Monasti, Ez-Zitoua, Sfax and virtual university in Tunisia. The study purposively sampled three universities on the basis of their entrepreneurial missions and entrepreneurship degree programmes and the courses they offered.
From each university, the study drew a purposive sample of lecturers, heads of departments, chairpersons and key informants from the ministry of higher education. Data was generated using in-depth interviews and source documents and records.

The survey established that all universities had entrepreneurship curricula either as programmes, courses or extra curricula activities done by students outside academic activities. All universities had entrepreneurship centres supported by outside experts coming to assist full time lecturers. Results show that in all universities, entrepreneurship degree programmes were driven by entrepreneurial aims and objectives. These reflected entrepreneurial competencies and values related to each university’s mandate. The study established that Carthage and Sfax universities had turned entrepreneurial, supported by strong partnerships with business, industry and research agencies. Monatsi University in particular, had curriculum integration structures supported by various sectors from business and industry. However, the study established that there was room for degree programmes in all universities to increase output of business start-ups and commercialisation of researches. The study established that an entrepreneurship curriculum is multidisciplinary and driven by stakeholder input. This study also south to establish that the curriculum is not confined to programme boundaries but can be multidisciplinary, driven by stakeholder input.

The study was influenced by Macdonald partnership model (Rae, 2010), that informs o the role of strategy, national goals in shaping entrepreneurship curriculum in degree programme and courses. The theory informs that universities must be connected to the broad national framework of entrepreneurship curriculum. The major weakness of the study was that it was that it used case
study methods that were place and time bound and, therefore, its results had no room for generalisations.

Results from these two studies differ in that Sheta’s results (2012) show a national programme that benchmarked entrepreneurship studies and fostered entrepreneurial cultures across all programmes and universities. On the other hand, Arroyo-Vazquez and Van de Sijde ‘s (2013) results show that universities had curriculum standing either as programmes, courses, extra curricula activities or entrepreneurship centres supported by outside experts. However, the results are similar in that they both illustrate the role of business, industry and research agencies in the process of designing curriculum in degree programmes and courses.

2.5.2.6. Evaluation of Curriculum Implementation Strategies in West Africa

In West Africa, the review focused on three studies. The following three studies by Uche (2012), Ojo and Gbinige (2014) and Wikholm, Henningson and Hultman (2014) evaluated curriculum implementation strategies by universities in Nigeria and Ghana.

A study by Uche (2012) evaluated the impact of policy framework by the National Council Commission (NCC). The commission directed all universities to establish centres for entrepreneurship development. The directive’s objective was to develop a curriculum that promotes positive thinking in students, leading to business formation and innovation. NCC also expected universities to develop a curriculum that equipped students with competencies for value addition and technology development. NCC expected all degree programmes to produce a new brand of indigenous entrepreneurs competent in creating world class services and products. The study used descriptive survey methods to assess the state and impact of the national framework.
The study’s population were all state universities in Nigeria. The study drew a random sample of 8 universities from which a sample of lecturers representing programmes was drawn. The study used questionnaires to collect data.

The study’s findings show that 65% of the programmes adapted the framework. However, implementation variations affected effectiveness of the framework. The study established that 86% of the lecturers disagreed that entrepreneurship centres were effective as focal points for implementation. These lecturers preferred programme based curriculum development with centres only coordinating practice based components. The study established some constraints of lecturer motivation and lack of incentives. The study established that in 90% of degree programmes, university, industry partnerships were not prominent. This study informs that external stakeholders are important in supporting the design and implementation of entrepreneurship curriculum in degree programme and courses. The study also contributes to understanding of the role of national core curriculum in anchoring curriculum goals and objectives from which individual programmes can adapt. The study was influenced by the Macdonald’s partnership model (Rae, 2010), in that it recognised the role of strategy and national goals in shaping entrepreneurship curriculum. These results are important in that they demonstrate that the formation of entrepreneurship curriculum must be stakeholder driven. The study’s main weakness was that it only used survey methods. The study’s sample did not include key informants particularly framework designers and employer representatives.

The second study is by Ojo and Gbinige (2014) in Nigeria. The study evaluated the scope of entrepreneurship curriculum in programmes and courses. The study was a case study. Its
population were all universities in Nigeria. The study purposively selected universities that offered entrepreneurship programmes and courses. The study used in-depth interviews to generate data from lecturers, heads of academic departments and degree programmes. The study also used programme regulations and course outlines.

The study established that the curriculum was packaged as general course based studies managed by lecturers with little or no special training in entrepreneurship. Lecturers’ qualifications had no reference to entrepreneurship experience. The study established that there were no mechanisms for in-servicing and incentivising lecturers to develop teaching materials in entrepreneurship. Curriculum was modularised with no experiential activities done in collaboration with business, industry and commerce.

The study was driven by the theory of curriculum change and innovation in universities. These results were contrary to the theory’s proposition that curriculum is changed through knowledge discovery and establishment of academic boundaries by lecturers. The theory asserts that lecturers shape entrepreneurship curriculum in response to industry and market demands (Wee, 2004; Vanevenhoven, 2013). The study’s findings contributed to the understanding of strategies where entrepreneurship curriculum change and innovation take place as lecturers create new content and teaching approaches. The study’s main weakness was that its population excluded employer representatives and students. The study also used a purposive sample and therefore its results cannot not be generalised to other universities.
The third study is from Ghana by Wikholm, Henningson and Hultman (2014). The study evaluated government programme that guided universities to implement entrepreneurship curriculum in degree programmes and courses. The programme mandated all universities to implement entrepreneurship curriculum in line with the country’s socio economic vision of 2025. The study used a descriptive survey design. The study’s population comprised of all state universities in Ghana from which a random sample of universities was drawn. The questionnaire was used as the main data collection instrument. Data was collected from lecturers, chairpersons and deans representing all faculties and degree programmes. Interviews were used to generate in-depth data from heads of departments and faculties.

The study established that there was lack of cooperation among departments and faculties in designing the curriculum. The study established little involvement of business and industry in the design of degree programmes and courses. These findings were underpinned by the thinking that entrepreneurship curriculum is not confined to single programme course boundaries, but embeds thematically into other disciplines. This comes from Macdonald’s partnership model that emphasises the role of internal and external stakeholders in reforming entrepreneurship curriculum (Rae, 2010). Results are also underpinned to the thinking that entrepreneurship curriculum must, to a large extent, be driven by external stakeholders. The study, therefore, contributed to the thesis by illustrating the role of the government’s core mandate in curriculum design. The study’s main weakness was that its population only covered state universities. Data was collected from academics and excluded students and key informants from external stakeholder sectors. While the methodology and sampling procedures allow results to be
generalised to state universities, the study limited itself to survey methods that only described the state of implementation and lacked depth probing of subjects’ interpretations.

While the studies’ results show similar constraints in incentivising lecturers they differ on the nature of the constraints. On one hand, Uche’s (2012) findings argued that entrepreneurship centres were ineffective and university, industry partnerships were not noticeable. On the other hand, Ojo and Gbinige’s (2014) results show constraints in course design and training for lecturers to develop teaching materials in entrepreneurship. Similarly, Wikholm’s (2014) results show a lack of cooperation among academic departments, business and industry in designing entrepreneurship curriculum for programmes and courses.

2.5.2.7. Evaluation of Curriculum Implementation Strategies in East Africa

Literature from East Africa has a range of studies. However, the review focused only on five that to a large extent influenced the study. The following five studies by Ekong (2014), Kabongo and Okpara (2010), Ponge (2003), Donath (2008), and Bawuah (2014) evaluated implementation strategies by universities in Kenya, Tanzania and South Sudan.

A study by Donath (2008) evaluated business studies undergraduate programmes in universities in Tanzania. The study was a case study. The purpose of the study was to assess strategies that degree programmes used to capacitate students into entrepreneurship. The study’s population were all universities that had business and commerce degree programmes. The study purposively sampled entrepreneurship programmes together with other degree programmes that had entrepreneurship courses. The study used questionnaires and interviews to generate data from
lecturers, head of academic departments and key informants from the higher education ministry, business and industry. The study established that entrepreneurship degree programmes and courses were housed in commerce disciplines.

The study established that teaching was modularised with little practical activities. There was little engagement with SME, large businesses and industry. Lecturers had qualifications in business with little orientation towards entrepreneurship. The study established that universities were yet to develop entrepreneurship centres for supporting, incubation, start-ups and technology based innovations. The study contributes to the understanding that curriculum implementation is driven by an overall strategy. The study was underpinned by the theory of entrepreneurial strategy and knowledge generation (James and Brookfield, 2014; Siok, 2014), that inform this thesis in that universities may have structures for implementing entrepreneurship curriculum that are shared by all stakeholders. The study’s main weakness was that it was a case study and therefore its results cannot be generalised to universities that did not participate in the study.

In South Sudan, a study by Bawuah (2014) did a literature review study focussing on the role of government policy in shaping implementation strategies. The study was a desk study that used various source documents ranging from government policy documents to university strategic plans, programme and course outlines researches.

Results of the study show that teaching of entrepreneurship was viewed as a catalyst for reconstruction and socio economic transformation. The study established that government took entrepreneurship curriculum at university level as a post conflict reconstruction strategy. The
study established that curriculum implementation strategies in programmes and courses focused on enterprise development. The study established that the curriculum promoted enterprise development in areas of health and sanitation, nutrition, infrastructure development, energy and agriculture. The study recommended to the government to formulate policies on Technical, Vocational Education and Training (TVET) at university level as a capacity building strategy. The study recommended that the government to put a lot of responsibility on lecturers and university graduates to contribute towards development of government programmes. The study demonstrates the importance of aligning entrepreneurship curriculum with government enterprise development initiatives. The study was driven by the theory of entrepreneurial strategy and knowledge generation. The theory informs this thesis on the need for universities to design business models of knowledge, generation, transfer and intellectual property (James and Brookfield, 2014; Siok, 2014). However, the study was a desk study that only used secondary data. Secondary data has shortcomings coming from pre-conceived documents made available to the researcher.

A study by Kabongo and Okpara (2010) evaluated capacities of degree programmes in universities in Rwanda in delivering entrepreneurship curriculum. The study was a multiple case study of three state universities in Rwanda that had entrepreneurship degree programmes and courses. Interviews were used to generate data from lecturers, heads of academic department and key informants from the Ministry of Higher education. Data was generated from source documents and records. Results show weak student and tutor support services. The study established weak practical skills development, and inappropriate content. Results show lack of involvement of local entrepreneurs in mentoring. Teaching methods were inclined towards
western entrepreneurship models. Findings illustrate the role of strategy formulation in driving entrepreneurship curriculum.

The study was driven by the theory of curriculum change and innovation (James and Brookfield, 2014; Siok, 2014), which inform that lecturers must constantly shape the curriculum by searching for solutions to social problems and responding to labour and market demands. The theory informs this thesis that lecturers must reform the curriculum through discovery and creation of new opportunities and new fields of study. The study’s main shortfalls were that it was a multiple case study whose results cannot be generalised to other universities.

A study by Ekong (2014) evaluated regional integration strategies by the Association of East African universities. The association had a template that guided universities to design and deliver relevant entrepreneurship competencies. The template also guided research and scholarship to meet local entrepreneurial needs. The multiple case study by Kaijage (2012) used a purposive sample of three universities, each drawn from Kenya Tanzania and Rwanda. In-depth interviews were administered to lecturers, deans and chairpersons representing faculties and programmes that participated in the programme. Data was generated from programme and course documents and records. The study described and compared entrepreneurship curriculum’s content, goals and teaching methods.

Results show that the content in all programmes prioritised student support and experiential learning. Results also show that in all programmes, emphasis was put on competence building and provision of student support for entrepreneurial action. Results indicate that the focus of
curriculum goals was shifting from traditional business teaching to opportunity recognition, venture creation and managing of start-ups. Recommendations were for universities to engage external stakeholders to collaborate with lecturers in shaping the curriculum. The study was underpinned to the theory of curriculum change and innovation in universities which informs that the curriculum must arise from knowledge progression degree programme (Wee, 2004; Vanevenhoven, 2013). Despite these contributions, the study had some shortfalls. The study’s sample excluded students and representatives from business and industry. Its results were therefore biased. One of shortfalls is that it used case study methods and therefore its findings cannot not be generalised to other universities.

In Kenya a study by Ponge (2003) evaluated the impact of a science and development programme called ‘SciDevNet.’ This was an entrepreneurially focused business education programme aimed at developing technical and business management skills among university students. This was a qualititative study; whose population were universities that had adapted the programme. At sampled universities, the study purposively selected business faculties that housed degree programmes and courses that implemented the programme. Data was generated from SciDevNet programme coordinators, lecturers and chairpersons.

The study established that SciDevNet provided students with opportunities for start-ups. The study also established that the programme mainstreamed entrepreneurship teaching with all programmes that had entrepreneurship courses. The study also established that all universities that embraced the programme entrepreneurship centres that promoted business incubation and start-ups. This study informed this thesis that implementation of entrepreneurship curriculum is
facilitated through centres of open knowledge transfer from universities to the external environment. The study was driven by the theory of entrepreneurial strategy and knowledge generation which illustrates the importance of entrepreneurship centres in facilitating knowledge transformation from universities to business and industry (James and Brookfield, 2014; Siok, 2014). However, the study had shortfalls. The study was limited in that its sample was restricted to few universities that housed the SciDevNet programme. Data generation was restricted to degree programmes that housed the programme.

The five studies have similarities and differences that influenced the study. For example, Donath (2008) and Kabongo and Okpara (2010) show constraints that were faced in curriculum implementation but differ in the nature of constraints. Donath (2008) highlighted limitations of entrepreneurship degree programmes and courses to commerce disciplines characterised by modularised content lacking practical activities and engagement with SME, businesses and industry. On the other hand, Kabongo and Okpara (2010) highlight constraints of weak student and tutor support services, practical skills development and inappropriate content. Results from Kaijage (2012), Ponge (2003), illustrated approaches to curriculum reform while Bawuah (2006) show how entrepreneurship teaching was used as a catalyst for reconstruction and socio economic transformation. Kaijage (2012) recommended that universities put in place reforms driven by competence building, provision of student support, teaching for opportunity recognition, venture creation and managing start-ups, while Ponge (2003) recommended for reforms driven by integrating entrepreneurship teaching into all degree programmes.
2.5.2.8. Evaluation of Curriculum Implementation Strategies in South Africa

From South Africa, the study focused on the following two studies by Foyalle (2013) and Sebuwufu and Ludwick (2012) that evaluated implementation strategies in universities in South Africa.

A national survey of state universities in South Africa by Sebuwufu and Ludwick (2012) evaluated teaching strategies by surveying experiences and expectations of entrepreneurship lecturers. The study’s population were all academics in state universities that had entrepreneurship degree programmes and courses. The study used a random sample of universities from which it generated data from lecturers, chairpersons and deans of entrepreneurship degree programmes and courses. The study used questionnaires on lecturers and in-depth interviews on deans and chairpersons.

The study established that teaching methods were predominantly classroom based. Results show that 70% of lecturers taught entrepreneurship courses using classroom based lecture methods, 10% used business planning and cite visits while 20% relied on seminar discussions and case studies. The study also established that only 30% of the lecturers offered student support as none formal curriculum activities. Very few lecturers 7% offered additional none formal entrepreneurial assistance to students besides conventional modules and lectures. These results informed this thesis that there was little emphasis on experiential methods and informal student support. Lecturers saw modularised teaching as less effective in fully equipping students with entrepreneurship skills. Lecturers favoured experiential methods supported by business and industry. These results are important because they revealed that lecturers were constrained in
refining the curriculum to meet standards they require. The study was underpinned by the theory of curriculum change and innovation that claim that entrepreneurship curriculum develops from knowledge progression within degree programmes and courses. The study had methodological shortfalls in that its population only covered state universities that offered entrepreneurship degree programmes. Its results therefore cannot be generalised universities with no entrepreneurship degree programmes. The study’s sample only comprised of lecturers in degree programmes and courses and left out none entrepreneurship programmes and courses. The scope of results was therefore not extensive.

The second study from South Africa is by Foyalle (2013). The study evaluated strategies by a consortium of universities in South Africa. The study was conducted in 2007 to evaluate of a programme where a group of universities in South Africa teamed up to form a consortium under a programme called ‘TABEISA’. The consortium comprised of Walter Sisulu University of Technology (WSU), Durban University of Technology (DUT) and Cape Peninsula University of Technology (CPTU). The programme coordinated entrepreneurship activities generated from universities that fostered small business creation by students with the help of business and industry. The study used case study methods to generate data from purposively sampled lecturers and graduates who had benefited from the programme. The sample also included chairpersons and deans of faculties and programmes that participated in TABEISA. Data was generated through interviews, documents and records.

The study established that the programme emerged as a platform for resource mobilisation and distribution to students. The programme also emerged as a platform for exchange of knowledge
among academics, business and industry helping aspiring entrepreneurs. Results established that there were activities where lecturers and students generated knowledge that was commercialised into enterprise development. The study also established that TABEISA assisted lecturers to refine entrepreneurship teaching methods and content in their programmes. The study demonstrates the importance of centres in helping students to transfer knowledge into commercialisation. Results also show that the consortium was an effective strategy in promoting incubators and start-ups. The study appraised an ICT incubator where students worked in an ICT company that did advertising and corporate branding. The study was driven by the theory of entrepreneurial strategy and knowledge generation which emphasises the role of structures and centres in coordinating external resources. The theory also supported the findings that highlighted how centres acted as platform for collaborative curriculum reform with all stakeholders (James and Brookfield, 2014; Siok, 2014). However, the study had some weaknesses. One shortfall was that its sample was limited to participating universities and, therefore, its results are not generalised. The study generated data only from informants who funded and benefited from the programme making its results biased.

The results from these three studies have similarities and differences that influenced the thesis. On one hand, Sebuwufu and Ludwick’s (2012) results highlight shortfalls of teaching methods that were predominantly classroom based with little opportunities for business planning and visits. On the other hand, Foyalle’s (2013) results highlight benefits from the consortium’s initiatives such as resource mobilisation, knowledge exchange that led to commercialisation.
2.5.2.9. Evaluation of Curriculum Implementation Strategies in Zimbabwe

From Zimbabwe there are very few studies conducted on a national scale. However, the review focused on three studies by Muponda (2012), Taphisa (2013) and Mwenje (2016) that evaluated implementation strategies in universities in Zimbabwe.

A study by Muponda (2013) evaluated entrepreneurship curriculum in degree programmes and courses. The study used case study methods. The purpose of the study was to assess strategies that were used in the implementation process. The study used a population of universities that had entrepreneurship degree programmes. This population became the sample. Questionnaires were used to generate data from lecturers who taught stand-alone entrepreneurship courses in none entrepreneurship degree programmes and others who taught core courses in entrepreneurship degree programmes. In-depth interviews were administered to chairpersons and deans.

The study established that universities offered entrepreneurship degree programmes housed in commerce faculties. The study established that integration existed through courses borrowed by other degree programmes in business faculties. In some cases, science, technology and engineering programmes borrowed entrepreneurship courses. The study argued that lecturers who taught entrepreneurship courses had little or no practical experiences in entrepreneurship. Teaching strategies were dominated by lecture methods. This study is important in that it illustrates constraints that lecturers in Zimbabwe faced in reforming and innovating entrepreneurship curriculum. Results demonstrate constraints that lecturers experience in knowledge search, discovery and creation. The study was influenced by the theory of curriculum
change and innovation in universities which illustrates that entrepreneurship curriculum must emerge from existing degree programmes created by lecturers through knowledge progression within the programme (Wee, 2004; Vanevenhoven, 2013). However, the study had some shortfalls when compared to this study. One of its limitations was that its population was limited to universities that offered entrepreneurship degree programmes and courses. Therefore, its results cannot be generalised to other programmes. Data was only generated only from subjects in programmes and courses under study and therefore were biased.

The second study was by Taphisa (2013). The study focused on the role of Non-Governmental Organisations (NGOs) in supporting entrepreneurship activities in universities. The study used case study methods. The study’s population were all universities in Zimbabwe. The study used a purposive sample of universities that offered entrepreneurship degree programmes and courses. Data was generated from lecturers who taught entrepreneurship courses and others who taught various courses in entrepreneurship degree programmes. Questionnaires were administered to lecturers who taught core courses in entrepreneurship degree programmes while semi-structured interviews were administered to lecturers who taught entrepreneurship courses. Data from deans and chairpersons who represented faculties and programmes under study was generated using in-depth interviews.

Results established that formation of entrepreneurship curriculum in degree programmes and courses did not involve NGOs. The study established weak linkages and less considerations of the role of NGOs business as strategic partners. Results show that there was little collaboration between degree programmes and NGOs in areas of research and development. Results also
established that there were NGOs carrying out research and community outreach in area of small scale business creation without assistance from universities. These results are important in illustrating the role of NGOs in the process of curriculum change and innovation. The study recommended strengthening of partnerships between National Association of None Governmental Associations (NANGOs) and universities. The study was underpinned by partnership model that require that reforming of entrepreneurship curriculum open its doors to external stakeholders such as NGOs (Rae, 2010). The study’s main weakness, when compared to this thesis was that, it was a case study and therefore was bounded by time and space. Its results were therefore not generalised. The sample was confined to lecturers who taught in entrepreneurship degree programmes. The results were therefore biased.

The third study was by Mwenje (2016). The study used case study methods in the city of Mutare to investigate challenges faced by university graduates in getting into entrepreneurship. The study generated data from graduates. The study’s population was all graduates residing in the city of Mutare. Using purposive and snowball sampling the study identified unemployed graduates with no income generating activities and unemployed graduates doing income generating activities. The study also sampled graduates who were employed in the private and public sector. This study used semi-structured and in-depth interviews to generate data on graduates’ backgrounds, experiences and expectations.

The study established that majority of university graduates were not formally employed. Very few graduates were formally employed in the private sector. The study established that graduates who were employed in the public sector did work that was not relevant to their degree
qualifications. The study also established that many graduates were engaged in informal income generating activities to support their families while waiting for formal employment opportunities to come. Some graduates with better incomes did post graduate studies through open and distance learning so as to remain competitive while waiting for opportunities to come. The study shows that lecturers were not active in refining the curriculum in their degree programmes to respond to the labour market and students’ needs. The study shows that curriculum in degree programmes were not strategically positioned to capacitate students to search, discover and create opportunities in the labour market. The study demonstrates that there are constraints for the entrepreneurship curriculum to emerge from a wide range of degree programmes. The study is underpinned by the theory of curriculum change and innovation in universities which claims that entrepreneurship curriculum develops as lecturers refine teaching content and methods to new concepts that are universally accepted (Wee, 2004; Vanevenhoven, 2013). However, the study had weaknesses when compared to this study. It was restricted to the case of graduates in the city of Mutare with results not be generalised to other cities. The study’s sample was purely purposive and therefore lacked objectivity.

The three studies have similarities and differences that influenced the study. Results from the three studies all show constraints that lecturers faced in reforming and innovating entrepreneurship curriculum. For example, Muponda’s (2013) and Mwenje’s (2016) results show that lecturers faced challenges in making the curriculum responsive to labour market and students’ needs. However, results differ on the nature of the constraints. For example, Muponda’s (2013) study highlights limitations of the entrepreneurship curriculum in modularised content. Muponda (2013) argue against housing the curriculum in commerce
faculties with science, technology and engineering programmes borrowing it as courses. On a different note, Taphisa (2014) highlight how degree programmes were constrained by little involvement of external stakeholders in areas of research and development and community outreach.

This section has reviewed a range of studies that evaluated the variable of strategy formulation in the implementation of entrepreneurship curriculum in degree programmes. The studies made some contributions into the understanding of the variable facilitate implementation. However, the studies were case studies whose results cannot be generalised to other universities. Some used purposive samples that lacked objectivity. This left a gap for studies that can produce results that can be generalised. The next section review studies on the role of the variable of curriculum integration.

2.5.3. The Role of Curriculum Integration

The study was informed by studies concerned with how macro and micro strategies of integration facilitated the implementation of entrepreneurship curriculum in degree programmes. Integration is a process where entrepreneurship curriculum is expanded into programmes and activities in other disciplines to provide educational opportunities in entrepreneurship for all students regardless of the field of study (Souitaris, Zerbinati, and Al-Laham, 2007).

A study by Hulsey, Rosenberg and Benita (2006) evaluated implementation of a programme called the Kauffman Campus Initiative (KCI) in USA. This project was an initiative of eight universities that attempted to integrate entrepreneurship curriculum into all their programmes.
Each university made different decisions about how to integrate curriculum initiatives into existing operational structures. Each university had autonomy on what type of institutional members to involve in oversight and guidance, and what resources to direct the initiative. The purpose of the study, therefore, was to provide insight and documentation on the implementation of this university wide entrepreneurship initiative. The study used case study methods where purposive sampling was used to select all eight universities that participated. Data was generated through site visits and lectures’ perception surveys. Semi-structured and in-depth interviews and documents were the main data generation instruments.

Results show that new programmes were developed. Existing programmes were expanded into creating a broad range of educational opportunities for university students, lecturers and surrounding communities. Results show that other programme components included co-curricular activities that supported and developed entrepreneurial interests, lecturer capacity development, research opportunities, and community outreach. Results also show that the KCI universities emphasised expanding available entrepreneurship curriculum to engage students outside business disciplines. However, the study established challenges of attracting lecturers to develop and teach courses. The study also established challenges of addressing approval process of new courses and of overcoming procedural barriers to student enrolment. Despite the study’s contribution into an understanding the role of integration the study is different from this study in that it only used cases study methods and therefore, its results cannot be generalised. The next section of the review, therefore, discusses studies that evaluated integration strategies used by universities in Europe, Africa and Zimbabwe.
2.5.3.1. Evaluation of Curriculum Integration Strategies in Universities in Europe

The study focused on the following five studies by Binks and Starkey (2011), Meyer (2014), Gibb (2014), Linan (2011) and European Commission (2008) that evaluated integrated strategies that were facilitated by centres.

A case study by European Commission (2008) studied integration activities at an entrepreneurship centre at the University of Strathclyde in Glasgow. The centre’s aim was to coordinate activities that promoted entrepreneurship spirit, awareness across all degree programmes. The study was a case study that used a population of students and coordinators of the programme. The study used a purposive sample of students affiliated to the centre. Data was generated through participant observations and interviews.

The study established that the centre promoted business culture across the university community. Results show that the centre organised extra-curricular entrepreneurship activities in creative programmes like Music, Art and Physical Education. The study also established that cultural activities organised by the centre motivated students in creative disciplines to turn knowledge and skills into business ventures. The study is underpinned by the magnet category of the theory of curriculum integration where an entrepreneur centre is the focus of activities (Hindle, 2007). These results demonstrated how integration centres can facilitate curriculum integration formally and informally. The study’s main weakness is that it was a case study and its results are therefore cannot be generalised.
The study by Linan (2011) evaluated activities at The Enterprise Initiative Centre (CIADE) at the University of Madrid. Activities at the centre functioned as an ecosystem combining internal and external incubators that fed into focal advisory centre. The study used case study methods to generate data on students’ perceptions and expectations. The study’s population comprised of students and lecturers from programmes that ran start-ups and incubators coordinated by the centre. The sample also comprised of aspiring entrepreneurs from communities that received services at the centre. The centres’ coordinators and representatives of business, industry and ministry officials that supported the centre also took part in the study as key informants. The study generated data through observation of activities, questionnaires on students and in-depth interviews on other participants.

Results show that the centre promoted curriculum integration through coordinating a network of activities. Degree programmes that supplied students into ecosystem contributed ideas into the multidisciplinary curriculum that was oriented towards development of incubators and start-ups. Results also show that the ecosystem was effective in integrating curricula activities and mobilising seed capital that generated start-ups from all programmes. These results are important in that they show how a centre can be a focal point of curriculum integration combining programmes and external stakeholders. The study is buttressed by the magnetic component of the entrepreneurship theory. The theory asserts that an entrepreneurship centre is effective in intergrading internal and external input of knowledge and resources for venture creation and technology transfer. Despite these contributions, the study was different from this study in that it was a case study and, therefore, its results cannot be generalised.
The third study was done by Binks and Starkey (2011). The study was a case study that evaluated activities at Northern Ireland Centre for Entrepreneurship. The centre offered mentoring support to university students and graduates who wished to advance in entrepreneurship. The centre mentored young aspiring entrepreneurs and offered achievement awards. The study’s main focus was to evaluate activities taking place at the centre using data on lecturers and students’ expectations. The study’s population were graduates, students and lecturers in degree programmes affiliated to the centre. The study administered questionnaires to graduates and students. Semi-structured interviews were administered to lecturers while in-depth interviews were administered to the centres’ coordinators.

The study established that the majority of beneficiaries were science, technology and engineering students. The study established that there was less participation from Arts and Humanities disciplines although the centre offered assistance in social entrepreneurship. The study established that the centre’s initiatives were able to reach to science, technology and engineering disciplines. Data show that the centre assistance an average 1800 science and technology students each year. Data also show that by the end of the first year after the centres’ launch, 241 courses across science, technology and engineering degree programmes had been embedded into its activities. The study established that the centre had strength in that it coordinated resources centrally while all academic disciplines were free to participate and that it designed learning activities while disciplines selected activities adaptable to their situations. The study was driven by magnet category of the theory of curriculum integration that argues for the role of the entrepreneur centre in coordinating entrepreneurship studies (Hindle, 2007). These results contributed to the study by illustrating that integration can be done through interdisciplinary
networking and linking of degree programme activities inside and outside the university. The results favour use of an independent centre in synchronising entrepreneurship curriculum in degree programme and courses. Despite these contributions, the study had some weakness when compared to this study. Its sample was purposive and only limited to students in programmes affiliated to the centre. The study was an evaluative case study whose results cannot be generalised.

The fourth study was done by Meyer (2014). The study evaluated a national programme in Poland that provided teaching tools and materials to all universities. The project offered generic manuals and a portal of supplementary materials. It also generated blended learning materials from various universities and disciplines. Meyers’s study was a qualitative study that generated data from lecturers, deans and chairpersons representing programmes and faculties in universities that participated. The study administered in-depth interviews to deans and key informants at the national coordinating centre. Semi-structured interviews were administered to lecturers.

Results show that the programme was able to fast-track various programmes into taking up entrepreneurship studies. The study also established that entrepreneurship lecturers who were drawn from participating universities to receive ongoing methodological support in launching pilot courses succeeded in making the courses an integral curriculum. The study also established that blending of courses with high potential for increasing integration facilitated networking among lecturers. The study was driven by the radiant category of the theory of integration that claims that entrepreneurship programmes emerge from outside business disciplines where each faculty is responsible for integrating the curriculum among its programmes and to other faculties
(Hindle, 2007). Despite these contributions, the study had weaknesses. When compared to this study, the major weaknesses was that its sample only covered universities that had programmes that took part; it excluded programmes that did not take part. The sample also left out students who were major beneficiaries of the programmes. The sample was purposive and therefore its results cannot not be generalised.

The fifth study was done by Gibb (2014). The study evaluated an integration project by universities that teamed up together with local communities into one entity called the Entrepreneurship House of Grenoble University in France. The project was a joint initiative of the universities. It had an inter-university degree programme at Masters and PhD levels with facilities at each university dedicated to supporting the students. The study was a multiple case study of three purposively sampled universities that participated in the programme. The study used questionnaires to generate data from students and graduates from the two programmes. Semi-structured interviews were used to generate data from lecturers. In-depth interviews were administered to project leaders, majority of who were deans and chairpersons from universities under study.

Results established that the consortium was effective in spreading awareness into all programmes. The study also established that the consortium promoted interdisciplinary networking. The study argued that interdisciplinary short courses, seminars, annual business plan competitions organised by the programme facilitated curriculum integration into all disciplines. The study is underpinned by the mixed approach facet of the entrepreneurship theory. The theory claims that faculties and degree programmes must work together in designing entrepreneurship
curriculum for degree programmes and courses. The theory argues for the curriculum to have goals and teaching methods adaptable to all programmes. These results were important because they highlighted the importance of strong linkages between degree programme designers, community, business and industry (Hindle, 2007). However, the study’s sample left out key informers from the public sector, commerce and industry. When compared to this study, the study had shortfalls. One of the shortfalls was that it was a case study and its results were therefore confined to the three universities.

The studies had similarities and differences that informed the study. Results are similar in that they established benefits that accrued from use of centres. For example, results from the European Commission (2008) and Linan (2011) show benefits of promoting business culture and venture creation in creative programmes. These two studies recommend for resource mobilisation for multidisciplinary incubators and start-ups in creative programmes. However, results differ in the way the centres are configured. While Meyer’s (2014) results show centres configured as mechanisms for producing generic teaching materials to supplement the curriculum for university consortiums, Gibb’s (2014) results show centres that are configured as inter-university degree programmes. On a different note, Boyle (2010) Binks and Starkey’s (2011) highlight biases of centres towards science, technology and engineering with less priority for Arts and Humanities.

The following three studies by Halac and Bulut (2012), NCGE (2014), and Boyle (2010) evaluated strategies driven by interdisciplinary curriculum from degree programmes and faculties. The first study is by Halac and Bulut (2012) who evaluated integration activities by an
Innovation laboratory at Johannes Kepler University Linz in Austria. The laboratory drew students from various business, science, technology and engineering degree programmes to do innovation studies as interdisciplinary teams. The study used case study methods to evaluate effectiveness of the labs. The study used a purposive sample of students and lecturers’ drawn from interdisciplinary teams. Laboratory leaders and sponsors also participated as key informants. Data from key informers was generated through in-depth interviews and document reviews. Questionnaires were administered to students.

The study established that the innovation lab promoted interdisciplinary cooperation among lecturers and students in activities of innovation and technology. Results also show that the lab opened access for business and engineering students to do innovation projects in teams. The study also established that courses from various disciplines were combined to form packages that contributed to product development processes. Evidence from the study also show that engineering students expressed satisfaction with entrepreneurship courses as they were able to developed and commercialise their projects. The study recommended that innovation laboratories served as platforms for facilitating integration and increasing opportunities for business start-ups. The study was driven by the magnet category of the theory of curriculum integration. The theory claims that the expansion of entrepreneurship curriculum is best coordinated by centres through centres through goal setting and designing learning activities for students to work in interdisciplinary teams (Hindle, 2007). When compared to this study, the study had shortfalls in that it used case study methods to evaluate effectiveness of the lab. Its results can therefore, not be generalised to other universities.
The second study is an evaluative study by NCGE (2014). The study evaluated a case of University of Cambridge where courses in science tech-disciplines were blended with entrepreneurship and innovation content. Entrepreneurship programmes and courses were also embedded into science and technical disciplines. The study was, therefore, a case study whose population were lecturers at the University of Cambridge. The study’s sample was purposive sample comprising of lecturers who coordinated integration and taught courses in the integrated programmes. The sample also included host lecturers whose programmes received the service of entrepreneurship lecturers. The study used in-depth interviews and document reviews.

The study established that the integrated courses had an impact of motivating students into venture creation and commercialisation. The courses also emphasised opportunity searching and discovery. The study established the importance of a curriculum engendered out of collaborative linkages among faculties and departments. The study gave recommendations on how an entrepreneurship curriculum applicable to all programmes can be designed. The study is underpinned by the mixed component of the entrepreneurship theory that argues for an integration framework that facilitates collaborative partnerships among faculties and departments. The theory also proposes for creation of entrepreneurship networks among universities, communities, businesses and industries (Hindle, 2007). However, the study excluded participants from business and industry who are key contributors to curriculum integration. When compared to this study, the major weakness of the study is that it was a case study and, therefore, its results cannot not be generalised to other universities.
The third study is by Boyle (2010). The study was done at the Norwegian University of Science and Technology and it evaluated effectiveness of a Masters’ degree in entrepreneurship designed for engineering students. The study’s population were all masters students enrolled for the entrepreneurship degree. However, the study used a purpose sample of students who had done engineering undergraduate degrees. The study used case study methods and generated data from students using questionnaires. The study used in-depth interviews on lecturers who taught courses in the degree programme. Document reviews and observations were also done.

Data from the study confirmed that the degree effectively capacitated engineering and science students to turn technical projects into business projects. Results also show that the programme developed teaching infrastructure that benefited other disciplines. Results also show that the programme acted as a platform for external stakeholders to engage in knowledge exchange activities with students from various backgrounds. The study is important in that it demonstrated that entrepreneurship curriculum is not limited to commerce disciplines but can also emerge from science, engineering and technical programme and expand to other programmes. The study is underpinned by the focused component of the integration theory. The theory claims that integration must take place at specific levels of degree programmes and courses (Hindle, 2007). When compared to this study, the study had limitations in that it used case study methods bounded by time and space and therefore its results cannot be generalised. The study only generated data from participants in the programmes under study and therefore its results lacked objectivity.
The studies had similarities and differences that were relevant to the thesis. The three studies show different typologies of centres. Halac and Bulut’s (2012) results were generated from an innovation lab while results from Boyle (2010) were from a case where courses in science tech-disciplines were blended with entrepreneurship and innovation content. Results from Boyle (2010) were generated from a centre configured as an interdisciplinary degree programme. The results are similar in articulating benefits of the centres for example, cooperation in innovation and technology, commercialisation of science and technology and capacitating engineering and science students into business start-ups.

2.5.3.2. Evaluation of Curriculum Integration Strategies in Universities in Africa

Although literature from Africa presented a range of studies, this thesis primarily focused on the following four studies by Sheta (2012), Cooney and Murray (2012) and Bawuah (2014) and Nwekeaku (2013) that evaluated curriculum integration strategies in Egypt, Tunisia, Ghana and Nigeria.

In Egypt, a study by Sheta (2012), evaluated a national curriculum project that targeted all state universities in Egypt. The study’s population comprised of all state universities in Egypt. The project was a framework initiated by the parent ministry for all universities to use in implementing entrepreneurship curriculum. The study was a multiple case study that used a purposive sample of three universities. The three universities had been used in a pilot study. These were Cairo, Alexandra and Helwan. Data was generated from lecturers, chairpersons and deans that represented all faculties, programmes and courses at these universities. The study administered questionnaires to lecturers and in-depth interviews to chairpersons and deans. The
study also used source documents such as programme regulations and course outlines. Results show that in these universities, entrepreneurship curriculum permeated into commerce, engineering, economics, political science and agriculture disciplines. The study found out that the impact of the project varied from university to university. The degree of variations varied from faculty to faculty in line with their goals. Despite these findings, the project registered positives. The study demonstrates that a nationally coordinated entrepreneurship curriculum can spread into all universities and programmes. However, the study’s main weakness is that its sample excluded students and representatives from business, industry and the public sector who were the key players in the project. When compared to this study, the study was a case study whose results were confined to three universities studied and its results, therefore, cannot be generalised to all universities.

The second study is from Tunisia by Cooney and Murray (2012). The study assessed the degree of integration by state universities in Tunisia. The study used descriptive survey methods to study a population of all universities in Tunisia. The study drew a random sample of five universities. At each university, the study randomly sampled one lecturer per programme, together with their one chairperson’s deans. The study used questionnaires designed to collect academic perceptions on the state of curriculum integration.

The study established that 90% of universities had degree programmes containing courses that had entrepreneurship content. The study also established that 75% of universities had centres that coordinated entrepreneurship as extra-curricular activities. Results show that about 60% of universities had mechanisms for expanding entrepreneurship courses from their programmes to
other programmes and of embracing content from other disciplines. However, only 35% of the programmes embraced content from science, technology and engineering faculties. Only 10% of science and engineering programmes were contributing to high tech entrepreneurship in other programmes. The study found out that no universities in Tunisia offered high-tech interdisciplinary activities to students from all faculties. The study is underpinned by the focused and university wide components of the theory of integration. The theory informs that universities that use the fixed approach targeted specific programmes and courses while universities that use the university wide approach promote interdisciplinary networking linking universities with commerce and industry (Hindle, 2007). Despite these contributions, the study had weakness. One of the main weaknesses was that its sample did not include players from industry and commerce. When compared to this study, the study only used questionnaires and did not follow up issues through the qualitative inquiry.

The third study is from Nigeria. It is a survey study by Nwekeaku (2013) that evaluated a national entrepreneurship programme for universities in Nigeria. The programme required that all universities run entrepreneurship programmes and compulsory courses. The purpose of the study was to generate data on the impact and effectiveness of the national programme. The study’s population were all state universities in Nigeria. The study used a purposive sample of six universities that offered entrepreneurship degree programmes and courses. The study administered questionnaires to lecturers who represented programmes at each sampled university. In-depth interviews were administered to deans, chairpersons and key informants from the ministry of higher education.
The study established that universities responded by establishing stand-alone degree programmes housed in commerce faculties. In some universities entrepreneurship courses were established by commerce programmes. The courses in turn were then borrowed by other programmes as compulsory courses. The study also established that very few programmes embraced the idea of reforming existing programmes to incorporate the entrepreneurial mandate. The study was driven by the radiant component of the entrepreneurship theory of integration. The theory proposes that individual programmes design their own entrepreneurial goals and teaching approaches that make the curriculum adaptable to individual departments and programmes (Hindle, 2007). The study’s is important in that it illustrates the need for integration strategies that make each programme irrespective of its orientation embrace entrepreneurship by introducing its own courses. When compared to this study, the study’s main weakness is that it was a case study whose results cannot be generalised.

The fourth study was a case study done by Bawuah (2014) in Ghana. The study evaluated entrepreneurship curriculum integration practices at The University of Ghana. The study’s population were students and lecturers in all programmes. The study used a convenient sample of students and a purposive sample of lecturers in programmes that had introduced compulsory entrepreneurship courses in their programmes. The study administered questionnaires to students and in-depth interviews to lecturers.

The study established that all commerce programmes had entrepreneurship courses. The study established that science, technology and engineering programmes had compulsory entrepreneurship courses for all first year students. However, these courses were borrowed from
commence disciplines and taught by commerce lecturers. Results show that students from all programmes appreciated the courses. However, majority of students expressed dissatisfaction with overemphasis on modularised and theoretical content. The study was driven by the entrepreneurship model for none business students (Papyannakis, Kastelli, Domingo and Mavrotas 2008). The model illustrates how students in none business disciplines can acquire knowledge in entrepreneurship. When compared to this thesis, the study had shortfalls in that it was as a case study and its results therefore, cannot be generalised to other universities. The study’s sample only covered programmes that implemented compulsory courses and did not include programmes that had not integrated the courses. The results were therefore biased.

The contributions from these four studies are inexhaustible. However, it is important to note similarities and differences that influenced this study. The four studies depict various strategies of integration namely infusion of the curriculum from commerce into engineering, political science and agriculture and of spreading the curriculum to other programmes. Results also show similar strategies of using stand-alone degree programmes and compulsory courses for science, technology and engineering programmes. However, results differ in articulating integration constraints. For example, Cooney (2012) argued that few programmes embraced input from science, technology and engineering disciplines, while Nwekeaku (2013) highlighted lack of high-tech interdisciplinary. Bawuah (2014), on the other hand, highlighted constraints of over emphasis on modularised courses lacking experiential activities
2.5.3.3. Evaluation of Curriculum Integration Strategies in Universities in Zimbabwe

In Zimbabwe, literature had a range of cases studies with very few national studies. This study focused on the following two studies by Chinjekure (2013) and Kanhukamwe and Chanakira (2013) that evaluated curriculum integration strategies by universities in Zimbabwe. A survey study by Chinjekure (2013) assessed the extent to which entrepreneurship education was being incorporated into state universities. The study was a descriptive survey that used a random sample of five universities from which five programmes were randomly selected from each university. From each programme, two lecturers were randomly selected. Data was collected through mailed questionnaires.

The study established that all universities taught entrepreneurship studies either as programmes or courses. The survey established that entrepreneurship courses were offered at Bachelors, Masters levels either as compulsory or optional courses. Provision in 80% of the programmes was largely elective. In 60% of universities, studies were confined to specific commerce degree programmes and levels as electives. Only 35% of the universities offered entrepreneurship courses in none business degree programmes. The study also established that in all universities, teaching approaches were largely characterised by mass lectures, assignments and dissertations with little or no mechanisms for integration into other disciplines. The study established shortfalls in resources and student support for innovations, incubations and start-ups. The study established that there was little practical support for students in science, engineering and technical disciplines to create venture start-ups. The study argues for the need for entrepreneurship curriculum to reach out to none business programmes in the form of experiential and student support activities. The study is underpinned by the teaching model for
none business disciplines by Papyannakis (2008) which depicts teaching approaches for science and technology disciplines. Despite these contributions, the study had shortfalls. One main shortfall was that its sample only covered lecturers and excluded students and key stakeholders from business and industry. The study is different from this thesis in that the study was a survey that only used questionnaires to describe the state of integration in universities without probing deeper through a qualitative inquiry.

The second study was by Kanhukamwe and Chanakira (2013) at Harare Institute of Technology (HIT). This was a case study that evaluated activities at the university’s technology centre. The population comprised lecturers, chairpersons and deans who coordinated the technology centre together with key informants from business and industry that supported the centre. The study administered semi-structured interviews on lecturers and in-depth interviews to key informants. The study also reviewed the centre documents and records comprising of polices, missions, objectives and records of teaching activities.

Results show that the centre coordinated industrial initiatives from various academic departments. The centre also scanned for potential opportunities in communities, commerce and industry that required university input to develop commercial and industrial processes. Results show that the technology centre coordinated community based research and development initiatives to develop products and services. The study argues for integration that facilitates multi-disciplinary teaching, research and development culminating from initiatives from degree programmes. The results are important in that they inform how the centre concept can facilitate support for innovation, technology development and knowledge transfer. The study is
underpinned by theory of integration. In particular, it is reinforced by the magnet facet of the theory which says that implementation of entrepreneurship curriculum in all degree programmes can be facilitated by an integration centre. The theory claims that the centre drives teaching goals, activities and harmonise resource mobilisation. When compared to this thesis, the study had shortfalls. The main shortfall was that, as a case study, its results were only generalised to HIT and not applicable to other universities. The study’s sample left out students who were key players the centres’ activities.

Contributions from these two studies are unfortunately inconclusive. However, there are similarities and differences that influenced this study. It is important to note that some differences in results were influenced by the methodologies used. For example, one was a descriptive survey while the other study was a case. Chinjekure’s (2013) survey depicts radiant integration strategies of compulsory and elective courses while Kanhukamwe and Chanakira’s (2013) case depict focused strategies of coordinating initiatives from various programmes. While results from Kanhukamwe and Chanakira (2013) case highlight benefits from focused strategies, Chinjekure’s (2013) results articulates constraints of integrating entrepreneurship courses into none business programmes.

2.5.4. The Role of Entrepreneurship Culture

This section primarily focuses on studies from universities in USA, Europe, Asia, Africa and Zimbabwe that had a large influence on the study.
2.5.4.1. Evaluation of Culture Promotion Strategies in Universities in USA

The following three studies by Mariah (2012), Tiene and Chandlar (2012), Vicens and Grullon (2011) evaluated culture promotion strategies by universities in USA. The first study is by Vicens and Grullon (2011). It assessed culture promotion strategies that universities in USA used. The study used survey methods. The study’s population were all universities in USA from which a random sample of 10 university was drawn. The study used questionnaires to collect data from academic and none academic staff that represented all academic and none academic departments at the sampled universities.

Results established trends where culture promotion was practiced by 80% of degree programmes. Other strategies were of involvement of all university staff in culture promotion. In 90% of the programmes resource mobilisation for entrepreneurship development was done through grant funded research. In all universities, programmes collaborated through integrated teaching frameworks and universal entrepreneurial teaching materials. Results also established that all programmes had teaching strategies that had partnerships with businesses and industries. The study argued that culture promotion naturally cultivated entrepreneurship behaviours and intentions among students. The study demonstrates the role of degree programmes in building social networks for venture creation. The study is underpinned by the social capital theory. The theory informs that social networks facilitate resource mobilisation and act as capital for students to identify and create opportunities. This implies that degree programmes must build social networks to help students transform opportunities into businesses. Despite these contributions the study had shortfalls. When compared to this thesis, the study had shortfalls in that researchers used questionnaires not supported by qualitative instruments to clarify subjects’ interpretations.
The second study is by Marriah (2012). The study studied effects of institutional culture on students’ entrepreneurial intentions. The study analysed cultural values, norms and shared behaviour patterns in the light of their influence on the spread of entrepreneurship among the university community. The study purposively sampled three universities in Texas in USA that had entrepreneurship missions, goals and core values. The study’s population was students and lecturers who were engaged in entrepreneurship degree programmes, courses and extra curricula activities. The study used case study methods that generated data using interviews and participant observations. In-depth interviews were used to generate data from lecturers and seem-structured interviews on students. Researchers visited universities to observe natural settings.

The study established that social environments in universities influenced academic activities. The study established that students’ entrepreneurial behaviours were influenced by socialisation processes in institutions. In these universities, degree programmes provided opportunities for students to experience life patterns of entrepreneurs. In some degree programmes business and industry took part in teaching activities by sponsoring business plan competitions, seminars and guest speakers. The study established that in these universities entrepreneurial life influenced students’ thoughts and behaviour. The study also established that in cases where degree programmes had incubators and spinoffs without mechanisms for promoting entrepreneurship culture, they struggled to generate entrepreneurship outcomes. The study concluded that institutional environments that offer entrepreneurial life experiences in entrepreneurship cultivate entrepreneurial intentions among students. This study is important because it informs that entrepreneurship culture is an important ingredient in shaping the curriculum in degree
programmes and courses. The study recommended that lecturers and students be stimulated to think and act entrepreneurially before expecting them to produce outcomes. The study is underpinned by the sociological theory of entrepreneurship. The theory illustrates the importance of building social networks for students as part of entrepreneurship curriculum. The theory asserts that the curriculum must promote opportunity creation from real experiences. The study is also buttressed by the ethnic identification component of the sociological theory in informing that social variables push students to decide to become entrepreneurs. It also argues that students’ social backgrounds built during the process of learning determine students’ success in entrepreneurship. When compared to this thesis, the study had some weaknesses. The main weakness was that, as a case study, its results were place and time bound and, therefore, generalisable to other universities. The study’s sample only comprised of participants involved in entrepreneurship activities making its results biased.

A study by Tiene and Chandlar (2012) at Pennsylvania State University in USA investigated relationships between culture and entrepreneurship teaching goals. The study’s population were students and lecturers in degree programmes, courses and extra-curricular activities. The study sought to investigate the effect of out of classroom entrepreneurship activities on students’ progress in entrepreneurship endeavours. The study was a case study that used a purposive sample of students in entrepreneurship degree programmes, courses, and extra-curriculum activities. The study generated data using interviews. The study used variables such as business plan competitions, boot camps, case studies, guest speakers and business expositions.
The study established positive correlations between cultural variables and entrepreneurship teaching outcomes. Results show that cultural elements were manipulated to shape students’ mind-sets towards entrepreneurship. The study established that student intentions to opt for entrepreneurship as a career was influenced by cultural elements in the institutional environment. The study found out that the intensity of entrepreneurial cultures promoted in universities accounted for variations in entrepreneurial outcomes from degree programmes. The study is important because it shows that cultural environments can be manipulated to promote entrepreneurship activities and to influence attitudes of students and lecturers. The study is underpinned by the sociological theory of entrepreneurship. The theory claims that students must learn to build relationships with potential markets, suppliers of raw materials and sources of capital during the course of their studies. The theory also claims that students must be given opportunities to build relationships with player in commerce and industry. When compared to this thesis, the study had weaknesses. The sample only consisted of subjects involved in entrepreneurship studies and therefore its results lacked objectivity.

While contributions from these studies are inconclusive, the studies have similarities and differences that influenced the study. For example, results differ in articulating typologies of culture promotion strategies. Results from Vicens and Grullon (2011) and Marriah (2012) supported participation of all university staff, business and industry in resource mobilisation and culture promotion. However, results vary on the effects of the culture promotion strategies. For example, Mariah’s results (2012) show how social environments and academic activities influence students’ entrepreneurial behaviours while Tiene and Chandlar’s (2013) results show how cultural elements shape students’ intentions towards entrepreneurship.
2.5.4.2. Evaluation of Culture Promotion Strategies in Universities in Europe

Literature from Europe had a range of studies on culture promotion. However, the study focused on the following four studies by Kirby (2012), Kurato (2014), Debackere and Veugelers (2014) and Valtanen (2007) that evaluated culture promotion strategies by universities in Germany, France and Spain.

The first study is by Etzkowitz and Lueck (2012). The purpose of the study was to investigate how social entrepreneurship was promoted at the Universidad Autonoma De Madrid. The study was a case study whose population were students and graduates. The study purposively sampled faculties of Business, Arts and Social Sciences. The study sampled graduates and students in degree programmes that had activities that promoted self-employment. Questionnaires were administered to students while semi-structured interviews were administered to graduates. Results show that none-business programmes had extra-curricular activities on social entrepreneurship. Results also show that Arts and Social Science programmes had activities that promoted values for venture creation. University graduates from these programmes confirmed that consultancy, training and coaching assisted them to gain access to social entrepreneurship. Majority of graduates from humanities and social sciences expressed satisfaction with support that contributed to their growth into entrepreneurship. The study demonstrates that none-business degree programmes can build networks that motivate none-business students to venture into business creation. The results informed this thesis that Art, Humanities and Social Sciences degree programmes can incorporate a curriculum on social entrepreneurship. The study was underpinned by the social capital and social network theory. The theory informs this thesis that
networks for social entrepreneurship can be created by all degree programmes. When compared to this thesis, the study had some weaknesses. Its main weakness was that it was a cases study and therefore its results could not be generalised to other universities.

The second study was by Kirby (2012). The study evaluated activities by groups of lecturers and students that teamed up at the University of Leipzig in Germany to do entrepreneurship as extra-curricular activities. The study evaluated how activities by interdisciplinary groups of students, lecturers and administrative staff promoted entrepreneurship spirit. The study was a case study whose population was the entire university community. The study used a purposive sample of students and lecturers that were engaged in group activities. The study also generated data from key informants who were involved in the group activities.

The study established that students, lecturers and staff worked in teams that contributed to building of an entrepreneurial community. The study also established that entrepreneurial spirit generated through team work naturally led to formation of start-ups. These results demonstrate that teams promote entrepreneurship spirit that in turn compliments efforts by degree programmes. Results also inform that teams built by students, lecturers and administrative staff increase opportunities for networking with external stakeholders which in turn boosted the spirit of venture creation. The study is underpinned by the anthropological theory. The theory informs this study that team building, informal group cultures contribute to sharing of values and beliefs that in turn facilitate curriculum implementation. When compared to this thesis, the study had weaknesses. The main weakness was that it was a case study and therefore, its results cannot be applied to other universities.
The third study is by Kurato (2014). The study was concerned with culture promotion strategies of turning universities into ‘entrepreneurship universities’. The purpose of the study was to evaluate culture promotion activities at the Technical University of Munich in Germany. The study was a case study whose population were all students, lecturers and none academic staff. The study generated a purposive sample of subjects who were active in culture promotion activities. The study used semi-structured interviews on all subjects. The study also administered in-depth interviews to heads of departments. The study used qualitative methods to synthesise data from participants whose views gave insights on the extent to which the university turned itself entrepreneurial.

The study established that university wide culture promotion activities motivated students’ attitudes and behaviours. The study also established that interdisciplinary activities on culture promotion such as business plan competitions and venture creation competitions influenced students’ intentions into formation of small businesses. Results also show that extra-curricular activities where students ran small projects as groups promoted the spirit of innovation and business formation. These results are important in demonstrating the importance of creating platforms for social networks to capacitate students into entrepreneurship. The study also informs on the ‘entrepreneurial university concept’ where opportunity creation values are naturally embedded into degree programmes. The study is underpinned by the social capital and social network theory. The theory informs that social networks for entrepreneurship and interdisciplinary teams promote entrepreneurial spirit. The theory also informs that teams mobilise resources and link students to internal and external networks. When compared to this
thesis, the study had weaknesses. Its main weaknesses were that it used case study methods and therefore its results cannot be generalised to other universities.

The fourth study is by Debackere and Veugelers (2014). The study evaluated a government project called The ‘Crea’ programme in France that supported students to get in contact with the world of enterprise. The project’s aim was to engage students with entrepreneurial working life and to encourage formation of small scale ventures. The study was a case study that used a purposive sample of three universities that had participated in the pilot project. The study’s population was lecturers and representatives of local businesses, industry and SMEs. Data was generated through interviews and document reviews.

Results show that students were satisfied with outreach programmes of working under mentors developing small businesses in communities. Results also show that students were satisfied with teaming up with local entrepreneurs in venture creation activities. The results demonstrate the importance of community involvement in the teaching of entrepreneurship. The study is underpinned by the social capital and social network theory in emphasising building strong social networks with entrepreneurs. This theory affirms that partnerships between local entrepreneurs and degree programmes in creating platforms for students to experience enterprising. The theory also informs that students must be linked to the larger business networks where opportunities are housed. The study is different from this thesis in that, as a case study, its results cannot be generalised to other universities.
While contributions from these four studies are inclusive, results have similarities and differences that influenced the study. The studies are similar in articulating effects of culture promotion activities. However, their findings differ on the nature of the effects. For example, Valtanen (2007) established strategies where none business degree programmes built networks that assisted non business students to venture into business while Kirby’s (2012) results established strategies where teams built entrepreneurial communities and entrepreneurial intentions. Kurato’s (2014) results, on the other hand, established how culture promotion strategies overall changed the way students think. Debackere and Veugelers’ (2014) results established how a partnership between local entrepreneurs and degree programmes acted as business networks for students.

2.5.4.3. Evaluation of Culture Promotion Strategies in Universities in Asia

Literature from Asia had a range of studies on culture promotion. However, the review focused on the following two studies by Powers (2013) and Chang (2013) that evaluated culture promotion strategies by universities in Japan and India.

The first study is by Chang (2013) at Doshisha University in Japan. The study evaluated a university project that promoted a culture of venture creation, science, technology and innovation across all faculties. The study was a case study that sought to assess perceptions of participants on culture promotion. The study used interviews and participant observations to generate data from lecturers, chairpersons and deans. The study also used in-depth interviews on project coordinators.
Results show that the project had more impact in Science, Technology and Engineering programmes. The study established that majority of students were satisfied with courses and special seminars in entrepreneurial finance. Case study seminars and real life entrepreneurship projects were seen as effective in enhancing innovation and problem solving culture. Participants were also of the opinion that business plan seminars and competitions were effective in promoting the culture of innovation. Students expressed that the projects were effective in getting them into real life partnerships with business and industry. These results are important in that they demonstrate the importance of engaging students in real life processes in businesses and industries. The study is underpinned by the sociological theory of entrepreneurship. The theory informs that culture promotion must make students experience real life situations of invention and venture creation. When compared to this thesis, the study had weaknesses. The main weakness was that the sample left out students who are the main beneficiaries of degree programmes.

The second study is by Powers (2013). This was a case study that investigated the effects of culture promotion through community outreach. The study’s population were students and lecturers at the University of New Delhi. The study purposively sampled students and lecturers in programmes, courses and teams involved in entrepreneurial community outreach activities. The study generated data from students, lecturers and key informants in the community. Interviews and document reviews were used to generate data.

The study’s major finding was that offices and facilities where students, academics and local communities obtained professional advice on creating business ventures were effective. The
study also established that external university centres where clients received knowledge and skills contributed to 65% of the SMEs that started annually. The study’s results inform that consultancy centres by universities are important in promoting community entrepreneurship. Results demonstrate the importance of involving students in community entrepreneurship projects. The study is underpinned by the sociological theory of entrepreneurship. In particular, the social network facet of the theory which claims that culture promotion is a prerequisite in the curriculum (Klver and Kevin, 2007). A curriculum should lead to team and community building. Despite these contributions, the study has weaknesses. When compared to this thesis, the study’s main weaknesses were that it used case study methods and therefore its results cannot be generalised to other universities and communities.

There are similarities and differences that influenced the study. Both studies focused on the effects of culture promotion strategies. However, the results show different culture promotion strategies at play in universities. For example, Chang’s (2013), results show effects of external stakeholders while Powers’s (2013) results show how outreach activities benefited students, academics and local communities.

2.5.4.4. Evaluation of Culture Promotion Strategies in Universities in Africa

Literature from Africa has a range of studies from different countries. However, the study focused on four studies by Cooney and Murray (2012), Sheta (2012), Bawuah (2014) and Hannan (2013) that evaluated culture promotion activities by universities in Tunisia, Egypt, Ghana and South Africa.
In South Africa a study by Hannan (2013) was concerned with culture promotion strategies that focused on community entrepreneurship. The study was carried out at The University of Free State. It was a case study that evaluated a short term training programme that the university conducted in rural communities. The purpose of the project was to assist communities to derive commercial value from indigenous ecologies. The study’s population was students and lecturers in programmes that participated in the project. The population also included benefiting communities. The study used a purposive sample that classified participants according to venture type. The areas included processing wild fruits, forestry, animal breeding, dairy production, crop production, wildlife and fisheries. The study used interviews and participant observations. The study established that degree programmes in agriculture, engineering and economics contributed to the community activities. Students participated in programmes that were in line with their disciplines through research and development activities.

The study established that sustainable projects initiated by students and communities emerged and raised entrepreneurship spirit. An example was a project where vegetables where grown in ‘hydroponics’ tunnels together with chicken and egg production. The study is important in informing the thesis that degree programmes must incorporate activities that connect students to community entrepreneurship. The study is underpinned by the sociological theory of entrepreneurship. The theory informs that degree programmes contribute to the development of community entrepreneurship. The theory argues for content that engages students into studying community economic activities and sources of livelihoods (Reynolds, 1991; Klyver and Kevin 2007). When compared to this thesis, the study had weaknesses. The main weakness was that it
was a case study bounded by time and space and its results were therefore cannot be generalised to other universities.

The second study is by Cooney and Murray (2012). The study evaluated culture promotion strategies used by universities in Tunisia. The study was a survey whose population was all state universities in Tunisia. At each university, the study used a sample of heads of faculties and departments. The study used a questionnaire to generate data.

Results show trends where (68%) of universities in Tunisia provided modules on entrepreneurship culture. The study found out that in majority of these universities, provision of the modules was compulsory in all disciplines and levels. The study established that collaboration of lecturers from different disciplines in writing and teaching the modules facilitated implementation. The study established that 80% of programmes followed up the modules through business planning and venture creation contests. These contests had an impact of boosting culture of business creation. The study also established that in 75% of universities, modules impacted on Arts, Social Sciences and Humanities programmes where students worked in teams of venture creation. The findings confirm that culture promotion is a critical element in the implementation of entrepreneurship curriculum in degree programmes. The findings inform that degree programmes must be built through social networks to boost entrepreneurship spirit and help students to penetrate wider social networks. The study is underpinned by the social capital and social network theory. The theory informs this thesis that students may have the capacity to search and identify opportunities but may lack skills and social networks to break through (Donna and Sparito, 2006). The study is also underpinned by the sociological theory of
entrepreneurship which prioritises that life experiences in entrepreneurship influence intentions of students. The theory informs that degree programmes and courses must manipulate their social environments to push students into opportunity search and discovery. When compared to this thesis, the study had weaknesses. The major weakness was that it used a sample of state universities and excluded private universities.

The third study was done in Egypt by Sheta (2012). The study evaluated a national programme that sought to incorporate entrepreneurship curriculum into the education system as a national strategy. The study was a descriptive survey that used a population of all state universities. The study used a random sample of six state universities from which lecturers representing all programmes were randomly sampled. The study used questionnaires to assess the impact of the national programme on variables of awareness building, capacity building, networking and knowledge transfer.

The study established that 60% responses agreed that the programme was effective in awareness building. Responses from 65% of the lecturers agreed that the programme was an effective capacity building strategy. All responses from departments of engineering, economics, agriculture, social and political sciences agreed that the programme boosted students’ intentions on small business creation. These results show that universities’ social contexts can reform to capacitate raise entrepreneurship awareness among students. The study is underpinned by the sociological theory of entrepreneurship in illustrating that the curriculum can help students experience life courses of entrepreneurs and change their social backgrounds (Reynolds, 1991; Klyver and Kevin, 2007). The theory argues for a dynamic curriculum that promotes students’
participation in government economic programmes, socio-economic activities and private enterprise development. When compared to this thesis, the study had some weaknesses. The main weaknesses were that it only used questionnaires. The researcher did not visit university departments to follow up on complex issues by interviewing lecturers.

The fourth study is from Ghana, by Bawuah (2014). The study evaluated entrepreneurship community projects done by lecturers and students. The study was a case study of a community project called Team Village Industry. In the project students capacitated communities with research based knowledge and skills to elevate traditional production activities into commercially viable projects. Data was generated from students, lecturers and key informants from the communities.

The study used interviews, participant observations and project records to generate data. The study established that projects that generated income were most preferred. Successful entrepreneurial projects were initiated by students and extended into the community. Results from the study show that students developed enterprising skills through participating in community projects. Students were able to link theory with practice by practicing problem solving. Results show that students’ involvement in community projects opened up more enterprising opportunities. This study was influenced by the sociological theory of entrepreneurship. The theory proclaims for community participation in supporting entrepreneurship curriculum. The theory informs that degree programmes and courses can develop social networks where students build entrepreneurial relationships with communities. The theory affirms that entrepreneurship intentions are developed as students participate in
community entrepreneurship (Reynolds, 1991; Klyver and Kevin, 2007). The study is different from this thesis in that it used case study methods and therefore its results cannot be generalised to other universities.

Contributions from these four studies are inexhaustible. However, the studies have similarities and differences that influenced the study. Results from these four studies differ in that Hannan (2011) and Cooney and Murray (2012) highlighted culture promotion strategies while Sheta (2012) and Bawuah (2014) highlighted effects of the strategies. Hannan’s (2013) results show strategies where degree programmes collaborated in community outreach activities to develop sustainable projects that raised entrepreneurship spirit. On the other hand, Cooney and Murray’s (2012) results show how modules on entrepreneurship culture helped students to build social networks and learn about entrepreneurship. Sheta (2012) and Bawuh’s (2014) results highlighted effects of strategies. For example, Sheta’s (2012) results show how culture promotion strategies boosted entrepreneurship awareness and students’ entrepreneurial drives while Bawuah’s (2014) results show how strategies on income generation naturally influenced students to create ventures.

2.5.4.5. Evaluation of Culture Promotion Strategies in Universities in Zimbabwe

In Zimbabwe studies that evaluated culture promotion on national scale were not available. However, literature had a range of case studies. The review focused on the following three studies by Manuere, Danha and Majoni (2014), Mudamburi (2013) and Mauchi (2011) that evaluated culture promotion strategies at CUT, HIT and NUST.
The first study is by Mudamburi (2013). It evaluated activities at Harare Institute of Technology’s Technopreneurship Development Centre (TDC). The study was a case study. The centre sought to inculcate technopreneurial values among students. The study’s sample was students and lecturers in programmes that were affiliated to the centre. Data was generated from students using questionnaires while semi-structured interviews were administered to lecturers. In-depth interviews were administered to programme coordinators at the centre. The study also analysed records that were generated at the centre. The study sought to evaluate the centre’s effectiveness in promoting entrepreneurship spirit among students. Data show that the centre’s activities promoted technopreneurship spirit, values and attributes.

Results show that the centre promoted attributes of the technological entrepreneurship with the aim of forming hi-tech start-ups. The study is important in informing that an entrepreneurship centre can coordinate culture promotion activities on behalf of degree programmes. The study was influenced by the social capital and social network theory. The theory argues for an entrepreneurship curriculum that is well resourced to promote entrepreneurship spirit. Through such a curriculum, students are supported to connect to the wider business networks (Reynolds, 1991). When compared to this thesis, the study had weaknesses. The main weakness was that, as a case study, it was bounded by time and space and, therefore, its results cannot be applicable to all universities.

The second study was by Mauchi (2011) at the National University of Science and Technology (NUST). The study evaluated a programme aimed at promoting entrepreneurship culture at the campus and supporting local entrepreneurs. The study’s population were students, lecturers and
communities that participated in the culture promotion programme. The study was a case study of one community. The sample comprised students and lecturers in degree programmes that participated in the project. The sample also consisted of key informants from communities that participated. The study used questionnaires for students and semi-structured interviews on lecturers and participants from the community.

The study established that the programme raised community readiness to environmental opportunities and challenges. The study established positive trends in supporting budding entrepreneurial activities in communities. The study established a range of re-engineered products/services developed through value addition and beneficiation. An example was the generation of electricity from the anaerobic digestion of cow dung to power a cattle range. The study demonstrates the role of degree programmes in community entrepreneurship. The study demonstrates the role of degree programmes in promoting opportunity discovery and creation through community participation. The study described a case of the Global Entrepreneurship Training Programme (GET) at HIT organised by Handong Global University and Ministry of Higher Education, Science and Technology Development. The programme sought to provide professionals and academics with opportunities to experience entrepreneurship. The study established that this training programme shifted mind-sets from traditional entrepreneurship to technology based entrepreneurship particularly ‘green technologies’.

This study was driven by the social network facet of the sociological theory of entrepreneurship. The theory stresses that degree programmes must provide students with business networks to facilitate opportunity discovery and creation (Klyver and Kevin, 2007). Despite these
contributions, the study had weaknesses. When compared to this thesis, the study had weaknesses in that as a case study, it was place and time bound and, therefore, its results cannot be generalised to other universities.

The third study was by Manuere (2014). The study investigated how cultural issues at Chinhoyi University of Technology influenced students to become entrepreneurs. The study used case study methods on a population of students from all programmes. The study used a purposive sample covering final year students in entrepreneurship degree programme, courses and extra-curricular activities.

The study established that students cherished entrepreneurship and venture creation studies and had interests in starting their own businesses. However, the study established that very few graduates made it to start-ups. The study observed degree programmes’ shortfalls in manipulating the social environment at the institution to influence students into opportunity discovery and creation. The study also observed ineffective university, industry partnerships in boosting the culture of venture creation. The study established lack of emphasis in promoting entrepreneurship spirit in non-business sectors. The study is underpinned by the sociological theory of entrepreneurship. The theory affirms that the curriculum in degree programmes must promote values and norms of invention, discovery and creation. The theory underpins the role of community building and promoting entrepreneurship values (Reynolds, 1991; Klyver and Kevin, 2007). Despite these contributions, the study had weaknesses. The study was different from this thesis in that as a case study, its results cannot be generalised to other universities.
Contributions from these three studies are inconclusive. However, the studies have similarities and differences that influenced the study. Results from the studies differ in that they were generated from different culture promotion cases. The cases are technology innovation centre (Mudamburi 2013), technology and innovation outreach Mauchi (2011), and institutional cultural variables (Manuere (2014). Mudamburi’s (2013) results show how a centre’s activities promoted Technopreneurship spirit, values and attributes while Mauchi (2011) results show how a technology and innovation programme raised community entrepreneurship. However, Manuere’s (2014) results show that while entrepreneurship and venture creation studies raised awareness, degree programmes had shortfalls in manipulating culture variables to influence students into entrepreneurship action. The next section evaluates studies on the variable of competence development.

2.5.5. The Role of Competence Development

While literature covers a wide range of studies that explain the role of competence development in entrepreneurship curriculum, this section primarily focuses on studies from USA, seven European countries and three African countries including Zimbabwe. The review starts by discussing the concept of competence development. Many views have been put forward to explain competence development. However, this review adopts Mc Mullen, Lawrence, Plummer and Zoltan’s (2007) view of competencies as sets of knowledge, skills and attitudes that enable students to search discover and create opportunities. It also adopts a similar view by Wilson (2014) and Zahra, Manasoreh and Narges (2012) that see competences as underlying characteristics exhibited by students such as intentions and traits. This thesis, therefore, interpret competencies as clusters of entrepreneurship attributes, knowledge, skills acquired by students
during their academic and personal life at university. Hence the review was informed by a range of studies concerned with the role of competence development.

2.5.5.1. Evaluation of Competence Development Strategies in Universities in USA

While literature from USA covers a wide range of studies, this review focuses on three studies by Walcott and Lippitz (2007), Mayhew, Simonoff, Baumol, Wiesenfeld and Klein (2012) and Clarysse (2014). These studies evaluated competence development strategies by universities in USA.

The study by Walcott and Lippitz (2010) evaluated activities at an innovation and technology entrepreneurship centre at the University of Texas. The centre combined lecturers and students from business and engineering degree programmes to develop innovation and technology ventures. The centre provided a two year post graduate programme on innovation and technology development. The study’s population comprised lecturers, students and graduates from the two faculties. The study’s sample comprised purposively sampled students graduates and lecturers from the centre. The sample also included key informers from organisations that networked with the centre. Semi-structured interviews were used to generate from lecturers while questionnaires were used on students and graduates.

Results show that some graduates from the centre succeeded in setting up innovation and technology ventures from support they got from the centre. The study established that courses provided practical activities where students worked in interdisciplinary teams designing products and services. The programme had courses with activities where students carried out research and
development with mentorship from lecturers and experts from business and industry. The programme offered opportunities for lecturers to carry out research and development in business and industry aimed at creating new products and services. This study informs that entrepreneurship curriculum can develop competences of innovation and technology development that can be transferred to business and industrial development. The study also show that the curriculum can also allow for knowledge generated outside universities to be fed into universities to reform the curriculum. These results are reinforced by the theory of knowledge generation. The theory illustrates that entrepreneurship curriculum can emanate from partnerships, and from research and development by lecturers in collaboration with experts from business and industry (D’Este and Patel 2007). When compared to this thesis, the study had weaknesses. The main weakness was that it was a case study and therefore its results cannot be generalised.

The second study is by Mayhew, Simonoff, Baumol, Wiesenfeld and Klein (2012) at University of Massachusetts. The centre sought to support students who wished to pursue career options of developing business ideas for the global market. The study was a case study that evaluated activities at the university’s centre for Global Entrepreneurship. The study used case study methods to generate data from lecturers, graduates and representatives from business and industry. The study used a purposive sample of lecturers from degree programmes that were affiliated to the centre. Interviews generated data from lecturers and key informants while questionnaires were administered to graduates.
The study established that the centre collaborated with various degree programmes in facilitating global partnerships between Massachusetts students and universities worldwide. Activities at the centre opened up entrepreneurship opportunities for students pursuing careers in global market. The study established that the centre contributed an average 55% of university’s graduates who succeeded in setting up enterprises in Africa and Asia annually. Results also confirm that an interdisciplinary curriculum coordinated by a centre can generate knowledge that can span into international businesses and industries. The study is underpinned by the theory of knowledge generation. The theory emphasises that an entrepreneurship curriculum must involve collaboration between degree programmes, business and industry can facilitate innovation and knowledge transfer from degree programmes into global entrepreneurship (D’Este and Patel 2007). When compared to this thesis, the study had weaknesses. The main weakness is that it was a case study and, therefore, its results cannot be generalised to all universities.

The third study is by Clarysse (2014). The study evaluated competence development activities at the University of Illinois in Chicago where a programme called ‘The concept 2 Venture’ was an annual event that identified students’ projects with potential for success and mentored them to create small companies. The programme was open to all disciplines. The study was a multiple case study. The study’s sample comprised students, lecturers, graduates and representatives from commerce and industry that were involved in the programme. The study used purposive and snowball sampling to identify students and graduates whose projects had been mentored.

Results show that 90% of graduates who had worked with professors and mentored by inventors from business and industry managed to create ventures commensurate with their degree
orientations. The study also established that the programme supported degree programmes to strategically invest resources into student support. These results are important because they show that a curriculum that has mentorship from professors and experts from the business community is critical in perfecting students’ ventures to excellence. The study was informed by the experiential learning theory. The theory informs that entrepreneurship curriculum must be holistic supporting students to link theory with experience (Wee, 2004). Despite its contributions, the study had weaknesses. Its main weakness is that it is a case study and, therefore, its results cannot be generalised to other universities as this thesis sought to.

Contributions from these three studies are inconclusive. However, the studies have similarities and differences that influenced the study. Results from the three studies are similar in that they depict effects of competence development strategies. However, they differ in the nature of benefits that were realised from the strategies. On one hand, Wolcott and Lippitz’s (2010) results show how students can be capacitated to design and develop products and services in partnership with business and industry. On the other hand, Mayhew, Simonoff, Baumol, Wiesenfeld and Klein’s (2012) results show how students can be capacitated to develop products for export markets and to set up offshore businesses. Clarysse’s (2014) results are similar to the other studies in showing how a centre can capacitate students to create ventures commensurate with their degree orientations.

2.5.5.2. Evaluation of Competence Development Strategies in Universities in UK

Literature from UK has a range of studies on competence development. However, the review focused on the following four studies by Turker and Selcuk (2012), Hannan (2013), Mars and
Rhoades (2012), and Matlay (2009) that evaluated competence development strategies by some universities in UK.

The first study is by Turker and Selcuk (2012) done at the University of Strathclyde in Scotland. It evaluated competence development strategies by degree programmes in creative disciplines. The study used purposively selected programmes in creative arts and music and lecturers who taught business oriented courses in these degree programmes. Data was generated through in-depth interviews and participant observations.

Results show that some degree programmes in the department of music introduced compulsory courses with a business component. The study established that students who studied education, had consultancy and self-employment courses added to their courses. In addition to teaching music and art, students were taught to produce music and art as a commercial product. This study is important because it shows how entrepreneurship curriculum can make students build careers in the art and music industry. Results inform this thesis that competence development can take place in all disciplines as long as learners are creative in designing new products and services from their areas of specialisation. The study is underpinned by the social cognitive theory. The theory informs that an entrepreneurship curriculum must help all students build self-esteem in venture creation and developing new products and services (Krueger and Norris, 2000). The study’s main weakness, when compared to this thesis is that it used case study methods and therefore its results cannot be generalised to other universities.
The second study is by Hannan (2013). The study was carried out in UK at the University of Bradford. The study evaluated the extent to which all degree programmes at the university capacities students into entrepreneurship practice. The study’s population was all lecturers and students at Bradford. The study used a random sample of students and lecturers drawn from each programme. The study generated data using questionnaires on students and semi-structured interviews to lecturers.

The study established that 76% of the programmes contained entrepreneurship courses. However, 90% of these courses lacked action oriented activities to put theory into practice. Results from survey of students’ expectations show that students preferred entrepreneurship skills that capacitated them technology driven innovations and business start-ups. The study established that 80% of the programmes, had activities where students took part in entrepreneurship awareness and basic training on small business formation. The study also established that 85% of the programmes offered students training on business formation and growth. Data from lecturers show that in all programmes, student support into entrepreneurship practice was expanding from traditional business programmes to none business disciplines. This study is important because it shows how all degree programmes and courses can incorporate elements of opportunity discovery and creation. The study is underpinned by the social-cognitive theory. The theory informs that an entrepreneurship curriculum must capacitate students to build self-confidence in entrepreneurship practice regardless of their degree orientations. The theory underscores that entrepreneurship behaviour and intentions must be developed in all disciplines (Krueger and Norris, 2000). Despite these finds, the study has weaknesses. The study’s main
weakness, when compared to this thesis, was that it was a case of one university and its results cannot be not generalised.

The third study is by Mars and Rhoades (2012). The study was done at the Institute of Dublin Institute of Technology in Ireland. The study focused on competence development strategies used in social science degree programmes. The study’s population was social science lecturers. The study used a purposive sample of social science lecturers who taught courses that had entrepreneurship content. In-depth interviews and participant observation methods were used to generate data.

The study established that in the programmes, written examinations were replaced with social enterprise projects of organising social events. In some courses students learnt to manage finances and logistics of show business. These results are important because they inform that entrepreneurship curriculum in social science disciplines can generate experiential knowledge that can be transformed into entrepreneurship outcomes. The study is underpinned by the experiential learning theory. The theory informs that knowledge generated in social science classrooms can be converted into real entrepreneurship experiences (Wee, 2004). The study has some weaknesses when compared to this thesis. Its main weakness is that it is a case study and therefore its results cannot be generalised to other universities.

The fourth study is by Matlay (2009). The study evaluated entrepreneurship degree programme in terms of its capacity to generate venture creation and innovation. This was post graduate research based programme called ‘Creative Women’s Entrepreneurship’ at the School of
Entrepreneurship Business (SEB) at the University of Essex in UK. The programme sought to provide students with opportunities for empirical studies on venture creation and innovation. The population of the study comprised of university graduates, lecturers and key informants representing organisations in industry and commerce. The study was a case study that used a purposively selected sample of graduates. Semi-structured interviews and questionnaires were used to generate data.

Results show that the programme had formal and extra-curricular activities on venture creation and innovation of products and services. Results also show that research seminars were facilitated by lecturers together with experts from business and industry. The study established that mentorship form experts in business and industry provided students with guidance on designing and developing new products and services. Results also show that researches conducted by students were on venture creation and technology based innovation of new products and services. These results are important in showing how a research based curriculum can facilitate venture creation and innovation. The study is underpinned by the theory of knowledge generation. The theory emphasises that research and development activities be done outside university boundaries and feed into degree programmes to capacitate students into venture creation and innovation (D’Este and Patel, 2007). The study has weaknesses when compared to this thesis. The main weakness is that it is a case study and therefore its results cannot be generalised to other universities.

Despite the in-exhaustive contributions from these studies, the studies have similarities and differences that influenced the thesis. For example, results are similar in that three studies
established how basic curriculum in a degree programme can facilitate venture creation and innovation. However, results differ in that Hannan’s (2011) results show how all degree programmes can collectively capacitate students with technology based skills on small business formation. On the other hand, the other three studies show how individual degree programmes can capacitate students. For example, Turker and Selcuk (2012), results show how creative arts degree programmes can help students develop products and services in the music industry. Similarly, Mars and Rhoades’s (2012) results show how social science degree programmes can capacitate students by organising social events instead of sitting for examinations. In contrast, Matlay’s (2009) results show how students can be capacitated through research and mentorship.

2.5.5.3. Evaluation of Competence Development Strategies in Universities in Germany

Literature from Germany provides a range of studies. However, the thesis focused on the following three studies by Kor, Mohoney and Michael (2011), Kurato (2013), Acs and Andretsch (2013) and Meyer (2014) that evaluated competence development strategies by some universities in Germany.

The study by Kor (2010) evaluated a programme at Northern Mecklenburg-Vorpommern in Germany called ‘Spinoff.’ The aim of the degree programme was to empower students to successfully start their small businesses from research and development. The study used case study methods to assess how the degree programme was effective in capacitating students to start small businesses. The study’s population comprised of lecturers and students in the degree programme. In-depth interviews were used to generate data from lecturers while questionnaires were used to collect data from students.
Results show that the curriculum in some courses was adaptable in other programmes. Results also established existence of venture creation research activities in the degree programme. Results also show that the programme had extra-curricular activities supported by professionals from business and information technology. This study is important because it shows how a curriculum can capacitate students into venture creation through research and development. The study is underpinned by the theory of knowledge generation. The theory argues for an entrepreneurship curriculum that capacitates students through collaborative research activities among degree programmes, commerce and industry. The theory states that these activities must lead to formation of start-ups and incubators (D’Este and Patel, 2007). Despite these contributions, the study had weaknesses. The major weakness of the study, when compared to this thesis, was that it was a case study of a particular institution and its results cannot be generalised to other universities.

The second study by Kurato (2013) was carried out at the Potsdam-Babelsburg University. The study evaluated a programme called Konrad Worlf Film and Television Academy that had start-ups and incubation activities for media students. The start-ups sought to develop sustainable projects by transforming innovative ideas into entrepreneurial activities in the media industry. The purpose of the study was to assess the extent to which the start-up curriculum capacitated students into spin offs. The study used case study methods. The study’s population was graduates, students and lecturers in faculties that housed the programme and courses. The population also included professionals in the media industry. The study purposively sampled media graduates, lecturers and students who benefited from the start-ups. The study used semi-
structured interviews on students and graduates and in-depth interviews on lecturers and key informants in the media industry. The study also used observation methods and document reviews.

Results show that the programme had strengths in that it was backed by media professionals and professors who provided expert consulting services. The programme was also supported financially by media houses. The study established that the programme boosted competition and creativity in the media industry. In some cases, partnerships with information and technology degree programmes opened opportunities for media entrepreneurship. This study is important because it informs that degree programmes can capacitate students to produce market driven innovations through collaborative research and spinoffs from business and industry. The study is driven by the theory of knowledge generation. The theory argues for an entrepreneurship curriculum that provides opportunities for collaborative knowledge generation between degree programmes and various sectors in commerce and industry (D’Este and Patel, 2007). The study has weaknesses when compared to this thesis. The main weakness is that it was a case study and therefore its results cannot be generalised to other universities.

The third study by Acs and Audretsch (2013) was done at the Beuth University of Applied Sciences in Berlin. The study evaluated a start-up support and business incubation programme that selected potential projects from students for perfection. The study was a case study that used a population of lecturers, students and graduates from all degree programmes. The population included key informers representing stakeholders in commerce and industry. The study used a purposive sample of students and graduates whose projects were selected into the incubation
programme. Lecturers and key informers were purposively selected. The study used semi-structured interviews on students and graduates. In-depth interviews were used on lecturers and key informers who coordinated the incubation programme.

Results show that the curriculum emphasised business incubation by students working in teams. The programme also provided projects scholarships to students with project that needed mentorship form other institutions. The study also established that seminars and one to one coaching perfected selected incubators. The support also connected groups of incubates to external business development partners and financiers. This study is important because it shows how degree programmes can capacitate students to start new ventures through experience and mentorship from experts. The study is underpinned by the experiential learning theory. The theory emphasises that a curriculum must generate knowledge from degree programmes that must be transmitted into opportunity searching and creation. The theory also buttresses the study by showing that the curriculum must engage students in holistic experimentation and transformation of knowledge into concrete experiences (Wee, 2004). The study has weaknesses when compared to this thesis. The study’s main weakness is that it used case study methods and therefore, its results cannot be generalised to other universities.

The fourth study is by Meyer (2014). The study evaluated a programme called ‘ROXI’ at the Institute of Entrepreneurship and Regional Development in Germany. The programme’s main aim was to mentor students aspiring to become entrepreneurs. The programme focused on developing creative service industries by engaging students in community outreach activities.
The study was a case study and its population comprised lecturers, students, graduates and key informers from communities that were outreached. Data were generated from lecturers and key informants using in-depth interviews. Semi-structured interviews were administered to students and graduates. Participant observations and document reviews were also used.

Results show that the programme capacitated students to participate in community entrepreneurship. The study established that students were capacitated to participate in community training, consultancy, team building and mentoring. The study concluded that the programme was effective in helping students create start-ups in communities, particularly in the service industry. This study is important because it demonstrates that an entrepreneurial curriculum can help aspiring entrepreneurs from various degree programmes to search and create business opportunities in communities. The study also demonstrates the role of experiential learning in entrepreneurship. The study is underpinned by the social-cognitive theory. The theory argues for an entrepreneurship curriculum that helps aspiring entrepreneurs from various backgrounds to develop self-confidence and shape their entrepreneurial behaviours and skills (Krueger and Norris, 2000). Despite these contributions, the study has weaknesses. The study’s major weakness, when compared to this thesis, was that it used case study methods and therefore its results are confined to the case.

The studies have similarities and differences that influenced the thesis. Results from all studies are familiar in showing how curriculum in degree programmes was reformed to capacitate students into entrepreneurship activities. However, the findings reflect a sharp contrast on strategies that the programmes used. For example, or, Mahoney and Michael’s (2011), results
show a competence building strategy whereas research based entrepreneurship curriculum was applied across all disciplines and was able to capacitate students to start small businesses from research and development. Kurato’s (2013) results show a strategy where partnerships among professionals from commerce, industry and academic departments partnered to provide consulting services that opened opportunities for media entrepreneurship. On one hand, Acs and Audretsch (2013) illustrated a strategy where students’ projects with potential for success were selected and developed for business markets through incubation and financing. On the other hand, Meyer (2014) shows a strategy where a programme used community training, consultancy, team building and mentoring.

2.5.5.4. Evaluation of Competence Development Strategies in Universities in France

Literature from France had a range of empirical studies on competence development. However, the review focused on the following two studies by Boung (2011) and Lynada and Vina de la (2013) that evaluated competence development strategies by some universities in France.

The first study is by Boung (2011) done at The EM Lyon Business School in France. The study was a case study that evaluated a programme called ‘Educating Entrepreneurs for the world’. The programme trained and supported students through incubators and start-ups. This programme was centrally coordinated by a centre with students from all programmes joining on voluntary basis. The population of the study was undergraduate students that received training at the centre together with full and part time lecturers who facilitated the programme. In-depth interviews and participant observations were used to generate data from lecturers while semi-structured interviews were used on students.
The study established that the programme had extra-curricular activities, business seminars, incubation and start-ups. The study established that students were given opportunities to act as entrepreneurs and enterprise managers. Lecturers networked with businesses and industry in organising incubators and collaborative research. This study is important because it informs this thesis that degree programmes can develop competences through incubators and start-ups. The study is underpinned by the experiential learning theory. The theory argues for an entrepreneurship curriculum developed and transformed through experience (Wee, 2004). Despite these contributions, the study has weaknesses. The study’s main weakness, when compared to this thesis, was that it used case study methods and therefore its results cannot be generalised to other universities.

The second study is by Lynada and Vina de la (2013). It evaluated a student support project at the ‘Institut Francais’ De La Mode in France. The programme had an attachment platform for graduates and students who came from various programmes to do entrepreneurship projects. The study’s population were students and lecturers that took part in the project. The study used a purposive sample of students who did projects through the programme together with lecturers who supervised the projects. The study used alumni records to follow up on graduates who had graduated after receiving assistance. The study used in-depth interviews and participant observations to generate data from its participants.

Results show that the programme had simulated enterprises created and run by mixed teams of students from different disciplines. The study found out that practical simulations where students
run SMEs from start-up phases were emphasised. The study also established that emphasis was put on simulated projects run by teams of students from various disciplines. This study is important because it demonstrates strengths of a curriculum that brings together students from different backgrounds and then provides practical support for real life venture creation from start-ups to growth.

The study is driven by the experiential learning theory. The theory emphasises a holistic experiential curriculum that is collaborative and driven by practical experiences. The theory asserts that a curriculum can be implemented through a transformation process from classroom learning to real concrete situations (Wee, 2004). Despite these contributions, the study had weaknesses. The study’s main weakness is that it is a case study and therefore its results cannot be generalised to other universities.

The results from the two studies have similarities and differences that were relevant to this study. For example, results are similar in showing how a curriculum in degree programmes was used to capacitate students. However, the findings differ on the strategies that degree programmes used. On one hand, Boung’s (2011) results show how extra-curricular activities like seminars and training for incubation and start-ups supported students to network with businesses and industry. On the other hand, Lynada and Vina de la’s (2013) results show how a curriculum with opportunities for simulated enterprises provided students with practical experiences in running SMEs.
2.5.5.5. Evaluation of Competence Development Strategies in Universities in Portugal

Literature from Portugal had a range of empirical studies. However, the review focused on the following two studies by Kurato (2013) and Tiene and Chandlar (2012) who evaluated competence development strategies by some universities in Portugal.

The first study is a comparative study by Tiene and Chandlar (2012) that compared competence development strategies by universities in Portugal. The study was a multiple case study that compared competence development strategies at three universities in Portugal namely Coimba, Minho and Lusaida. These universities were selected on the basis that they had entrepreneurship degree programmes and courses. The study used a population of lecturers, head of departments and faculties.

At University of Coimba results show a range of entrepreneurship competencies pursued by degree programmes. The range comprised of categories in a continuum where on one end programmes developed competencies for new business creation while on the other, programmes went beyond the launch of new ventures to business survival and growth.

The study established that at University of Minho, commerce degree programmes and courses focused on competences such as business formation, personal selling, small business growth and survival. However, the study established that competence development was confined to business studies programmes. At University of Lusaida, the study established that competence development focused on SMEs development, small business financing and principles of entrepreneurship. The curriculum also covered development of start-ups, incubation, research
and development. This study is important because it informs this thesis that a curriculum in degree programmes must revolve around competence typologies. The study is underpinned by competence based theory. The theory argues for manipulating curriculum in degree programmes and courses to develop entrepreneurship attributes. Despite these contributions, the study had weaknesses. The study’s main weakness, when compared to this thesis, is that as a multiple case study, its results cannot be applicable to other universities.

A study by Kurato (2013) at the University Lusaida in Portugal was concerned with how degree programmes and courses capacitated students to commercialise innovations into products and services. The study was a case study that purposively sampled engineering programmes. Data were generated from lecturers who taught courses in these engineering degree programmes. Semi-structured interviews were used on students while and in-depth interviews were used to generate data from lecturers.

Results show that lecturers in all degree programmes had objectives on commercialisation of research and development projects into products and services. The study established that lectures emphasised that courses on provide activities on developing technology based businesses. The study established that the curriculum in many programmes covered courses on product design, creativity entrepreneurship, business creation and development. The study established that students worked in multidisciplinary teams in developing technology based products and services. The study established that all engineering students networked with researchers and commercialisation experts from many sectors in business and industry. Their activities covered validation process and final commercialisation. This study is important because it evaluated the
curriculum in degree programmes. Its results are important in showing how curriculum in a degree programme can capacitate engineering students into commercialisation. The study also illustrates the importance of supporting students in none business disciplines. The study is driven by the social-cognitive theory. The theory emphasises for an entrepreneurship curriculum that helps students in all programmes to build confidence and self-esteem in developing business ventures in their respective areas of study. When compared to this thesis, the study had weaknesses. The main shortfall is that it used purposive samples of specific degree programmes and therefore its results are confined to the programmes studied.

The contributions from these studies are in exhaustive. However, the studies have similarities and differences that informed the study. The results are similar in that they both depict competences that degree programmes focused on. However, the findings differ on the nature of competencies established. Tiene and Chandlar’s (2012) results were generated from business studies degree programmes while Kurato’s (2013) results were generated from engineering degree programmes. On one hand, results from Tiene and Chandlar (2012) depict competencies that focused on business formation, launching, survival and growth. On the other hand, Kurato’s (2013) results depict competences on commercialisation of research based innovations into technology businesses.

2.5.5.6. Evaluation of Competence Development Strategies in Turkish Universities

Literature from Turkey has a range of case studies on competence development. However, the review focuses on the following two studies by Gurol and Atsan (2013) and Carlos (2008) that evaluated competence development strategies by some Turkish universities.
The first study is by Gurol and Atsan (2013). It was concerned with curriculum implementation through manipulating teaching approaches. The study was carried out at the European University of Lefke. The purpose of the study was to examine how pedagogy in engineering degree programmes was linked to entrepreneurship. The study was a case study that purposively sampled lecturers in programmes under study. Data were generated using in-depth interviews and document reviews.

The study established that the curriculum in courses identified as for entrepreneurship was on learning about entrepreneurship and less on learning for and through entrepreneurship. However, the study established that lecturers desired to provide activities that expose students to entrepreneurship experiences than transmission of knowledge about business management. The study also established evidence of teaching objectives that sought to achieve competencies of perseverance, problem solving, opportunity recognition, risk taking and analysis. This study is important because it demonstrates the importance of incorporating entrepreneurship curriculum in technical disciplines built entrepreneurship competences. The study is underpinned by the competence based theory. The theory informs this study on the importance of personal dimensions in students and development of course content that has entrepreneurial experiences and outcomes (Baron and Markman, 2000). When compared to this thesis, the study had some weaknesses. The main weakness is that it used case study methods and therefore its results cannot be generalised to other universities.
The second study is by Carlos (2008). It assessed entrepreneurship intentions of science and engineering students at the Turkish International University. The study’s population covered civil, computer, electrical and electronics engineering lecturers and students. The study was a panel study that followed a cohort of students over a period of four semesters. The study generated data after each semester when students had covered additional courses. Due to difficulties in sampling students, the convenient sample of students from the cohort. The study also sampled lecturers who taught courses in the cohort. The study used questionnaires that were followed up using semi-structured interviews.

One of the many findings from the study is that it identified entrepreneurship competencies that can change attitudes and intentions of students through teaching. Results also inform that content added systematically during the programme effectively changed students’ entrepreneurial behaviours and intentions. The study is underpinned by the theory of entrepreneurial intention and behaviour. The theory argues fora curriculum that is designed to change students’ attitudes and behaviours. The theory informs that degree programmes can motivate students’ intentions into entrepreneurship behaviours (Panaluna and Panaluna, 2008). When compared to this thesis, the study has weaknesses. The main weakness is that it only focused on science and engineering programmes instead of social science and Arts degree programme.

Although the studies present important findings, the results also have similarities and differences that have a bearing on this study. For example, both studies show how a curriculum in degree programmes was reformed. However, the results differ in articulating strategies used. On one hand, Gurol and Atsan’s (2013) results show how the curriculum was transformed to include
experiential learning that exposed learners to actual entrepreneurship experiences. On the other hand, Panaluna and Panaluna (2008) results show how content was systematically increased to change students’ entrepreneurial behaviours and intentions.

2.5.5.7. Evaluation of Competence Development Strategies in Universities in Spain and Norway

Although literature from Spain and Norway covers a wide range of empirical studies, the review focused on the following two studies by Halac and Bulut (2012) and Deborah (2012) that influenced the study.

The first study is by Halac and Bulut (2012) at Computense University of Catalonia in Spain. It was concerned with how entrepreneurship curriculum in none business degree programmes and courses developed competences of business creation. The study was a case study that used a population of lecturers and graduates on the alumni data base. The study selected a purposive sample of lecturers and graduates from Arts, Humanities and Social Sciences programmes. In-depth interviews were administered to lecturers while semi-structured interviews were administered to graduates.

The review focused on results that show that lecturers in various social science programmes planned social entrepreneurship activities for students in collaboration with stakeholders from the public sector and NGOs. Degree programmes had practical activities designed to promote business and none business start-ups. The study established that social science graduates who had succeeded in creating ventures had been supported by NGOs in collaboration with their
degree programmes at all stages of start-ups from idea generation to consolidation of business ventures. Results also show that some lecturers in Arts programmes collaborated with government departments and NGOs to capacitate students into the art industry. The study established that 55% of spin-offs that were generated from the university each year came from Arts and Social Sciences degree programmes. This study is important because it shows that all none business and none science programmes can capacitate students into opportunity searching and creation. The study is underpinned by the social-cognitive theory. The theory puts emphasis on an entrepreneurship curriculum that capacitates students in all programmes to develop self-esteem in entrepreneurship. The theory also stresses for a curriculum that supports students in all disciplines, particularly none business disciplines, to invent new products and services. When compared to this thesis, the study had weaknesses. The study’s main weakness was that, as a case study, its results cannot be generalised to other universities.

The second study is by Deborah (2012). It evaluated an entrepreneurship degree programme at The Norwegian School of Entrepreneurship. The degree programme was designed for science, technology and engineering students. The programme sought to create entrepreneurial competencies by making students network with professionals from commerce and industry. The study’s population comprised lecturers and graduates on the alumni data base. The study used purposive sampling methods to identify lectures who taught courses in the programmes and graduates who had benefited from the programme. The study used semi-structured interviews to generate data. The study also used document reviews to assess the programme’s three phases.
The study established that the first phase sought to provide students with basic understanding of business issues while the second phase sought to make students work in high potential start-up companies. The third phase sought to assist students develop business plans and start-ups. Data from interviews show that the degree programme had an internship programme that had start-ups and incubators. Results show that graduates from the programme opened small businesses in various sectors of industry. This study is important because it informs that a curriculum must be reformed and transformed into incorporate development of concrete projects. The study demonstrates that science and technical degree programmes can incorporate entrepreneurship curriculum that generates entrepreneurship competencies for all students. The study is underpinned by the experiential learning theory. The theory puts emphasis on a curriculum where entrepreneurial knowledge is transmitted through practical experiences. The theory informs this study that learning starts by experimentation in classroom and labs and is then transformed into concrete setups in business and industry. When compared to this thesis, the study has weaknesses. The main weakness is that it was a case study of one programme. Its results are therefore not generalised to other programmes.

The results have similarities and differences that influenced the study. Results are similar in that they depict curriculum reform strategies that degree programmes used. However, results show how differences in strategies were influenced by degree type. For instance, Halac and Bulut’s (2012) results show how lecturers in Social Science and Arts programmes collaborated with external stakeholders from government and NGOs to support students into self-employment through start-ups. Deborah’s (2012) results on the other hand show how Science, Technology
and Engineering programmes collaborated with professionals from commerce and industry to support students through practical experiences of developing business plans and start-ups.

2.5.5.8. Evaluation of Competence Development Strategies in Universities in Africa

Literature from Africa provided few empirical studies. However, the review was influenced by cases from Ghana, Tunisia, Kenya, South Africa and Zimbabwe.

The first study is from Ghana, by Pohle and Grullon (2013). It evaluated a post graduate programme at The Ghana Institute of Management and Public Administration. The programme was in entrepreneurship and was designed for practicing and aspiring entrepreneurs with no pre-entry qualifications for standard business programmes. The study evaluated how the programme capacitated its students with requisite entrepreneurship competencies. The study’s population was made up of lecturers and graduates. The study used purposive sampling on lecturers and snowball sampling to identify graduates from alumni data base. The study was a case study that administered in-depth interviews to all its participants and generated qualitative data.

Results show that entrepreneurship curriculum in the courses was tailor made to accommodate practicing and aspiring entrepreneurs form different fields who wished to become entrepreneurs. The study established that the programme had courses that were ideal for practicing and would be entrepreneurs wishing to start or grow their businesses. The study established that 65% of graduates from this support programme succeeded in making competitive small and medium scale business ventures. The study also shows that some courses were generic in capacitating students with skills to design, create and commercialise services and products in different market
segments. This study is important because it illustrates an entrepreneurship curriculum for aspiring entrepreneurs without standard academic backgrounds. The study is underpinned by the social-cognitive theory. The theory underscores an entrepreneurship curriculum that helps practicing and aspiring entrepreneurs to build self-confidence and esteem in pursuing their endeavours (Krueger and Norris, 2000). When compared to this thesis, the study had some weaknesses. The main weakness was that it was a case study and therefore its results cannot be generalised to other universities.

The second study is by Faltin (2010). The study was a survey that was concerned with the entrepreneurship curriculum in degree programmes in all state universities in Tunisia. The purpose of the study was to evaluate the curriculum by assessing lecturers’ capacities to develop and implement the curriculum. The study’s population was all lecturers that taught entrepreneurship programmes and in programmes that housed entrepreneurship courses. The study used purposive sampling to select the universities and programmes. At each university the study purposively selected lecturers from the programmes. Due to the geographical nature of the universities, the study used questionnaires to collect data.

The review focused on lecturers’ expectations that show that lecturers were not keen to engage in additional entrepreneurial activities besides teaching. The study established that lecturers were not provided opportunities to engage in practical venture creation. Lecturers also argued that their achievement in promoting entrepreneurship outcome among students was not part of their key result areas. This study is important because it demonstrates the importance of lecturer competence development. The results demonstrate that capacity development of lecturers is an
important ingredient in curriculum design. The study is underpinned by the competence based theory. The theory argues that lecturers who design the curriculum for degree programmes need to be capacitated with entrepreneurship knowledge and entrepreneur attributes. Despite these contributions, the study had weaknesses. When compared to this thesis, the study had major weaknesses in that its sample was purposive and limited to lecturers. Its results are therefore biased.

The third study is by Nwangwu (2012). The study evaluated a business incubator programme at Kenyatta University called SciDev Net. This was a business incubator programme that supported students to develop ideas into commercially viable products and services. The incubator programme was affiliated by degree programmes in commercial disciplines. Students took part in the incubation programme as an option of their internships. The study used case study methods. The study’s population comprised of lecturers and stakeholders from commerce and industry. The study generated data using in-depth interviews.

The study established that the business incubator programme provided opportunities for students to develop their ideas into commercially viable products and services. The study established that incubation fostered effective networking among students, business experts, industrialists and mentors from Kenyatta University. The study also established tangible outcomes of projects such as online supermarkets and internet security systems were developed by students. However, the study noted constraints such as lack of congruence between theory and practice. The curriculum in the programme was westernised with sponsorship coming from University of Western Ontario. This study is important in informing the importance of a curriculum where students
carry out creative and problem solving activities through incubators. The study is underpinned by the experiential learning theory. The theory puts emphasis on a curriculum where knowledge is transmitted from the classroom into real practice through transformation and experience. This curriculum provide opportunities for interacting with entrepreneurship curriculum in classrooms and laboratory settings before moving out to concrete situations supported by commerce and industry. Despite these contributions, the study has weaknesses. When compared to this thesis, the main weakness is that as a case study, its results cannot be generalised to other universities.

These studies have important contributions that were inexhaustible. However, they had similarities and differences that influenced this study. Results from the three strategies are similar in depicting how curriculum in degree programmes was reformed. However, results depict different purposes of the strategies such as capacitating aspiring entrepreneurs (Pohle and Grullon, 2013), capacitating lecturers (Faltin, 2010) and capacitating students (Nwangwu, 2012). Results from Faltin (2010) and Nwangwu (2012) go further to depict contrasting challenges experienced. On one hand, Faltin (2010) observed little engagement of lecturers in entrepreneurial activities. On the other hand, Nwangwu’s (2012) results established too much westernisation and lack of congruence between theory and practice.

2.5.5.9. Evaluation of Competence Development Strategies in Universities in South Africa

Literature from South Africa has a range of studies on competence development. However, the study focused on the following four studies by Shambare (2013), Sebuwufu and Ludwick (2012), Linan (2011) and Meyer (2014).
The first study is by Shambare (2013). It investigated variables that influenced teaching of entrepreneurship in universities in South Africa. The study was a case study carried out at the University of Johannesburg. The study’s population was made up of lecturers, chairpersons, and deans in commerce disciplines. The study purposively sampled participants from degree programmes that had courses in entrepreneurship. The study generated data using in-depth interviews and document reviews. The study established that degree programmes had courses that offered a range of entrepreneurship competencies. The study classified these competencies in categories of entrepreneurial intention, motivation and performance. The other category covered business formation, survival and growth.

The study also established that courses in other programmes had competences covering learning for start-ups. The programmes had skills development plans for lecturers. This study is important because it demonstrates that entrepreneurship curriculum in defined by sets of competencies developed through course design. The study is underpinned by the competence based theory. The theory puts emphasis on an entrepreneurship curriculum made up of matrixes of competencies that can be developed by manipulating course content. The study’s major weakness when compared to this thesis was that it used purposive samples of programmes and therefore, its results cannot be generalised to all degree programmes.

The second study is by Sebuwufu and Ludwick (2012) done at the University of Western Cape. The study evaluated a one-year intensive study programme called ‘Entrepreneurship Stream’ that supported teams of students to start up campus micro-businesses. The study was a case study whose population was lecturers, students and graduates. The study was a case study that used a
purposive sample of lecturers, students, graduates and key informants representing organisations that networked with graduates from the programme.

Results show that the programme had courses that covered opportunity recognition, business formation and growth. Results also show that the programme had courses that had capacitated students into formation and growth of micro-businesses. The study also show that some courses provided for informal venture creation activities that in the process promoted teams. The informal activities enabled students to do commercial activities at the campus with the help of mentors. Results show that the programme capacitated students into business start-ups and promoted teams that successfully developed and grew small businesses. This study is important because it informs how a curriculum can provide for informal activities like campus based small businesses, incubators, start-ups, business clubs and societies that are important for students to refine their ideas. The study is underpinned by the experiential learning theory. The theory put emphasis on a curriculum that generates and transmits knowledge through commercially build environments in universities (Wee, 2004). When compared to this thesis, the study had some weaknesses. The major limitation is that it is a case of a specific programme confined to a single university. It results are therefore not generalised to other universities and programmes.

The third study is by Linan (2011). It is a case study carried out at The Centre for Innovation and Entrepreneurship at the University of Western Cape. The centre was a research based unit anchored by science, technology and business faculties. The population of the study were students, lecturers and graduates. The study used a purposive sample of students who received services from the centre. The sample also included graduates selected from the alumni. The
purposive sample also included lecturers in programmes that fed students into the centre. The study generated data using in-depth interviews, document reviews and participant observations.

Results show that the centre provided expert research and development mentorship to aspiring entrepreneurs. Results also show that the centre supported entrepreneurs aspiring for international markets. The study also established that the centre networked with commences and industry in mobilising local entrepreneurs to assist students and alumni graduates engage in high-tech business ventures. This study is important because it shows that different degree programmes can collaborate and develop competences through research and development. The study is also important in illustrating that degree programmes, though knowledge transfer centres can harmonise their activities with commerce and industry. The study is underpinned by the theory of knowledge generation. The theory puts prominence on an entrepreneurship curriculum that is developed through collaboration of degree programmes, businesses and industries (D’Este and Patel, 2007). When compared to this thesis, the study has some weaknesses. The major weakness is that it is a case study of a particular centre and its results can therefore not be generalised.

The fourth study is by Meyer (2014). It evaluated student support services offered to students in programmes that offered entrepreneurship degree programmes and courses. The study was a multiple case study that used a purposive sample of universities in South Africa affiliated to the Global Entrepreneurship Monitor. The study purposively selected lecturers who taught courses in these entrepreneurship programmes. The study used interviews on lecturers and key informants. The study also reviewed documents on programme aims and objectives. The study established
that all universities had support service centres focusing on either, technology development, innovation, venture creation and business development in line with benchmarks of the Global Entrepreneurship Monitor.

The study established that in all universities, these centres offered assistance of seed capital for incubators and start-ups. The study established that these centres promoted a curriculum that was biased towards internationalisation of entrepreneurship. This study is important in informing the importance of centres in facilitating the process of knowledge generation and transformation into concrete outcomes. The study is underpinned by the experiential learning theory. The theory puts weight on an entrepreneurship curriculum that has experiential activities where students are supported by incubators and start-ups (Wee, 2004). When compared to this thesis, the study has some weaknesses. The major weakness is that it is a case study and therefore its results cannot be generalised.

Contributions from these four studies are inconclusive. However; the studies have similarities and differences that influenced the study. For example, results are similar in depicting competence development strategies brought through curriculum reforms. However, they differ in many aspects. On one hand, Shambare (2013) and Sebuwufu and Ludwick (2012) highlight innovations in courses. On the other hand, Meyer (2014) highlights how innovations are generated through support centres. Shambare’s (2013) results show how courses can develop entrepreneurial intentions and competences of business formation, survival and growth, while Sebuwufu and Ludwick’s (2012) show how courses can develop competences of opportunity recognition, business formation and survival. Other differences are that, on one hand, Linan
(2011) established how centres mentor aspiring entrepreneurs, while Meyer (2014) established how centres incorporated competences of technology innovation into the curriculum.

2.5.5.10. Evaluation of Competence Development Strategies in Universities in Zimbabwe

Literature from Zimbabwe had few studies concerned with competence development across universities and their degree programmes. However, the review focused on the following four studies by Mauchi (2011), Msipah (2013), Mudamburi (2013) and Munyanyiwa, Svetwa, Rudhumbu and Mutsau (2016). These studies evaluated competence development strategies by some universities in Zimbabwe.

The first study is by Mauchi (2011). The study was a case study of universities that had entrepreneurship degree programmes. The study purposively selected universities that offered entrepreneurship degree programmes and courses. Data were generated from lecturers who taught core courses using semi-structured interviews and document reviews.

Data show that lecturers taught entrepreneurship courses using lecture methods. Examination of teaching methods also shows that while the lecture method was dominant, courses were biased towards business planning. The study established that assessment in all courses was based on written examinations supported by dissertations and course work assignments. This study is important because it demonstrates dominance of those traditional teaching methods in Zimbabwe. The study demonstrates that entrepreneurship curriculum in degree programmes in Zimbabwe is devoid of content and activities to capacitate students in opportunity searching and creation. The study is underpinned by competence based theory. The theory puts prominence on
a curriculum made up of competence typologies incorporated into the course content (Duening, 2013). Despite these contributions, the study had weaknesses. Major weaknesses are that it only selected entrepreneurship degree programmes and, therefore, its results are biased against other degree programmes.

The second study is by Msipah (2013). The study evaluated activities at a science park at Harare Institute of Technology (HIT). The science parks’ goal was to bring together people with knowledge and financial support to help students engage in start-ups. The study was a case study that used a population of students and lecturers in programmes that took part in the science park projects. The study purposively selected students and lecturers from engineering programmes that took part. The study used interviews, participant observations and document reviews.

Results show that the park used start-up activities that assisted students to create small scale manufacturing enterprises. Results also show that the science park generated high-technology business ventures and commercial projects that reached various stages of development. The study highlighted activities at a case called Insti-Holdings owned by the university. The company emerged from research and development and developed into full commercialisation. A company called Insti-Foods was formed as a subsidiary student company from Insti-Holdings. It produced soya-yoghurt, soya milk and ice cream. However, the study established constraints of infrastructure and benchmarking. This study is important because it shows how degree programmes can collaborate to form science parks for supporting students into research, development and commercialisation. The study is underpinned by the experiential learning theory. The theory stresses for an entrepreneurship curriculum that is generated from
collaboration among degree programmes. (Wee, 2004). When compared to this thesis, the study has weakness is that, as a case study its results cannot be generalised to other universities.

The third study is by Mudamburi (2012). The study was conducted at HIT. It evaluated activities at the university’s Technology Education Centre (TEC). The centre was a strategic centre seeking to develop pedagogy of Science, Engineering and Technology (SET). The population of the study were students and lecturers in programmes that affiliated to the centre. The study purposively selected lecturers, graduates, and key informants from industry and commerce representing companies that supported the centre. The study generated data from all participants using semi-structured interviews and participant observations. Data was also generated through document reviews.

Results show that the centre promoted development of technopreneurship research and development in all degree programmes. Results also show that the centre facilitated product development and commercialisation in all degree programmes. The study established that the centre offered services to scholars interested in teaching and research in venture creation. However, the study observed that research and development at (TEC) was limited to lab activities and fell short from developing industry generated competencies. The centre suffered from lack of effective university, industry partnerships. This study is important because it shows that a curriculum supported by a centre, businesses and industries can develop competences that can be adapted in all degree programmes. The study is underpinned by the theory of knowledge generation. The theory puts emphasis on an entrepreneurship curriculum driven by science and technology and supported through collaboration among degree programmes, businesses and
industries. The theory also argues for a curriculum supported by research and development done in partnership specific sectors in commerce and industry (D’Este and Patel, 2007). When compared to this thesis, the study has weaknesses. The major weakness is that the study was a case of a technology education centre. Its results therefore, cannot be generalised to all universities and programmes.

The above study described a case of strategic partnership between HIT and the Centre for Innovation and Technology Corporation in Iran (CITC). The partnership was in the area of technology transfer and collaborative research. Through this relationship, HIT and CITC collaborated in technology transfer of bio-technology, agricultural research and food science and technology. Results show that students and lecturers from the two institutions did collaborative researches and engaged in exchange and secondment programmes. Results of the evaluation establish that partnership impacted on capacitating students and lecturers at HIT to acquire more research and development skills from students and lecturers from CITC. However, the study recommended for enhanced partnerships between government departments, private sector and other universities in the country. The study is underpinned by the theory of knowledge generation. The theory emphasises a curriculum where degree programmes in local and international universities collaborate in areas of research and development (D’Este and Patel, 2007). Despite these findings, the study is weak, when compared to this thesis in that as a case study, its results cannot be applicable to other universities.

The last study is by Munyanyiwa, Sivotwa, Rudhumbu and Mutsau (2016). The study evaluated curricula in entrepreneurship courses housed in none entrepreneurship programmes. The study
was a case study that used perceptions of engineering students and lecturers in degree programmes that offered entrepreneurship courses. The study was carried out at CUT. The study’s population were all lecturers and students in engineering degree programmes. The study purposively selected lecturers and students who taught entrepreneurship courses. The study generated data through in-depth interviews on lectures and semi-structured interviews on students. The study also used document review method. The results show that both students and lecturers were satisfied with courses’ ability to transfer technology and innovations into communities. The results show that the courses promoted students’ intentions towards research, innovation and commercialisation. The study highlighted cases of students who went on to show case their innovations at the inaugural National Engineering Students Awards Competition (NESAC). This was a culmination of local institutional student support by engineering degree programmes from NUST, CUT, HIT and UZ. Results show that entrepreneurship courses changed students’ mind-sets and grew their intentions to show cases their science and technology innovations at other platforms other than NESAC. This study is important because it shows that a curriculum in engineering degree programmes can be blended with entrepreneurship curriculum to facilitate research, innovation and commercialisation. The study is underpinned by the theory of knowledge generation. The theory puts emphasis on an entrepreneurship curriculum that evolves from strategic partnerships (D’Este and Patel, 2007). Despite these contributions, the study had weaknesses. The study’s main weakness when compared to this study was that it was a case study and therefore its results cannot be generalised.

While contributions from these studies are inconclusive, the studies have similarities and differences that influenced the study. For example, results from the four studies are similar in
depicting strategies and constraints in competence development. However, the studies show different typologies of strategies (Mauchi, 2011; Munyanyiwa, Svitwa, Rudhumbu and Mutsau, 2016; Masunda, 2012; Mudamburi, 2012). Results also show contrasting constraints (Mauchi2011; Masunda, 2012; Mudamburi, 2012).

2.6. Research Gap

Empirical studies that have been reviewed provide inconclusive evidence on the applicability of the theory of opportunity discovery and creation and on variables that facilitate its application. However, the studies left some gaps. For example, Urwyer (2006) demonstrated how opportunity discovery and creation theory was applied in the formation of companies and Parker (2014) established that opportunities discovered objectively could be recreated through social interaction. However, these studies, together with Ojala and Puhaka (2013), only used case study methods and therefore their results are confined to company formation. In addition, Parker (2014) established constructs to measure opportunity discovery and creation and also distinguished social from commercial opportunities. However, their results could not be generalised because the majority used none-probability sampling techniques. The studies were cases illustrating how companies and products were formed in specific settings without articulating variables that make opportunity discovery and creation applicable in other situations like degree programmes. By focusing on company formation, the studies could not account for curriculum formation in degree programmes. This thesis therefore sought to fill this gap. While the studies are underpinned by the theory of opportunity discovery and creation, they only established how companies and products are formed and left gaps on the applicability of opportunity discovery and creation in curriculum formation. This study therefore, filled this gap
by applying the theory in degree formation and evaluating underlying variables for incorporating entrepreneurship curriculum into all degree programmes.

Studies on applicability of facilitating variables in university settings also left some gaps. Studies that evaluated the variable of strategy formulation had methodological shortfalls. For example, global surveys by Mwasalwiba (2010), Wilson (2014), and Hanage (2008) used website data sources and emailed questionnaires. Researchers did not visit the institutions studied to make observations and interact with subjects. Researchers that interviewed participants only used teleconferencing and Skype without visiting actual settings where curriculum was formed. In this thesis, the researcher filled this gap by visiting universities and interacting with students and lecturers.

The choice of samples by these studies had shortfalls. While Solomon (2013) established how platforms for incubation and commercialisation in degree programmes can be created, his samples only comprised of state universities. Katz’s (2013) study established how strategy emanated from lecturers but used data restricted to programme representatives and programme documentation excluding lecturers, students and stakeholders. Jones and Iredale (2010) used samples that left out students, graduates, and key informants from industry and commerce while Morris, Web, Fu and Singhal (2013) did not include students, graduates and representatives from industry and commerce. Some studies made meaningful contributions but had data generation and analysis shortfalls. For example, Blenker, Dreister and Nielsen (2015) evaluated implementation strategies using data from heads of departments without applying triangulation with data from students and lecturers. OECD (2012) evaluated effectiveness of support strategies
in universities using survey methods without support form qualitative inquiry to follow up on issues that needed in-depth analyses. This thesis sought to fill these gaps by adopting a pragmatic paradigm that led to use of mixed methods.

Studies that evaluated the variable of curriculum integration demonstrated the role of integration but also left some gaps. Binks and Starky’s (2011) studies were case studies, and therefore, did not articulate integration strategies across all universities and degree programmes. Some studies studied integration strategies in natural settings using purposive samples of participants and failed to account for all programmes. Meyer (2014) for example, used purposive samples that left out students and therefore produced biased findings. Some studies failed to factor in all universities and degree programmes in a particular country and therefore studied a limited scope of integration. For example, Boyle’s (2010) study only used data sources of participants in programmes under study and its results therefore lacked credibility. Some studies were restricted to case study methods with no support from survey methods in studying integration strategies across all universities in a country. For example, Hulsey, Rosenberg and Benita (2006) established the role of integration strategies while Linnan (2011) established how a centre can be used as a focal point for integration. However, these studies were case studies and their results could not be generalised as national studies. Some studies had shortfalls in sampling. For example, Meyer (2014) established the role of blending courses but used a sample that was only a purposive and limited to participating universities. Gibb (2014) used a purposively selected sample that left out key informers from the public sector, commerce and industry. All these studies therefore could not provide conclusive evidence on the role of the variable of integration.
This study therefore sought to fill these gaps through the mixed methods approach to address the research question.

Studies that evaluated the variable of entrepreneurship culture promotion made interesting findings but had methodological shortfalls. For example, Vicens and Grullan (2011) established the role of degree programmes in building social networks for venture creation. However, the study only used survey methods that were not supported by qualitative methods. Kirby’s study (2012) was a case study of individual institutions. Tucker (2013) established the role of cultural elements and institutional environments in building students’ intentions but the study only used case study methods. Some studies had sampling shortfalls. Some of the studies focused only on single groups of subjects and produced results that were biased. For example, Chang (2013) used a sample that left out students. Mirriah (2012) established the importance of building social networks for students but only used participants engaged in entrepreneurship studies.

Lastly, studies that evaluated the variable of competence development made very important findings but had methodological shortfalls. While the gaps left by these studies have already been discussed, it is important to note that these studies used case study methods and their results cannot be generalised to all universities and degree programmes. For example, Walcott and Lippitz (2010) established that a curriculum can allow knowledge generated outside universities to flow into universities while Clarysse (2014) established the importance of a curriculum that is mentored by experts from industry and commerce. However, these studies were case studies and their results were confined to time and place. Mayhew, Simonoff, Baumol, Wiesenfeld and Klein (2012) established the importance of centres in culture promotion but it was also a case study whose results could not be generalised. Studies by Hannan (2011), Mars and Rhoades (2012),
Matlay (2009) and Turker and Selcuk (2012) produced important results on how the curriculum in degree programmes could be reformed. However, the studies were case studies whose results could not be generalised. Results from these studies were only confined to descriptions of competences developed in specific programmes. This study, therefore, sought to use mixed methods to allow results to be generalised at the same time allowing the researcher to study specific contexts interacting with the subjects.

2.7. Chapter Summary

The chapter articulated philosophical foundations of entrepreneurship education. The conceptual framework was presented in two parts. The first part illustrated that entrepreneurship curriculum for degree programmes manifest in various forms all seeking to advance students into opportunity searching, discovery and creation. The second part illustrated underlying variables to facilitate the curriculum to yield desired outcomes in all programmes. In this regard, the chapter discussed theories that informed the study on the nature of the curriculum and how it can be facilitated. To support the theories, the chapter reviewed empirical studies that show how opportunity discovery and creation theories were applied in venture creation. The chapter revised sets of studies that evaluated how facilitating variables were applied in the teaching of entrepreneurship in universities in USA, Europe, Asia and Africa. In the end the chapter ended with a research gap. The next chapter discusses the research methodology.
CHAPTER 3
RESEARCH METHODOLOGY

3.1. Introduction

The previous chapter reviewed related literature. This chapter discusses the research methodology and design. The paradigm adopted was pragmatism. This paradigm is presented as a perspective where positivism is complimented by interpretivism. The chapter starts by discussing the ontology, epistemology and axiology of the paradigm. It then presents the research methodology, research design, and population, sample and sampling procedures. The chapter then discusses data collection methods, instruments, reliability, validity and trustworthiness before discussing data presentation, analysis, and triangulation, ethical and legal issues. The chapter ends with a chapter summary.

3.2. Research Paradigm

Philosophical frameworks that guide researchers are termed paradigms. Paradigms serve as assumptions, values and beliefs that researchers hold about fundamental aspects of reality. Paradigms provide specific world views through which researchers perceive and interpret reality (Creswell, 2007). Researchers cannot carry out studies without reference to paradigms, as such; paradigms encompass systems of practice and thinking that define researchers and the nature of their inquiries. In addition to seeing paradigms as belief systems that guide the research process, it is also widely accepted that each paradigm has its own view of nature (ontology), clarification of whether knowledge is internal or external (epistemology) and clarification of methods to generate the knowledge (methodology) (Krauss, 2005; Denzin and Lincoln, 2010). Advancement
of knowledge through research and philosophy has evolved into generation of many paradigms. However, this thesis adopted pragmatism which takes strengths of both positivism and interpretivism.

Pragmatism is a classical research paradigm that departed from the juncture of positivism and interpretivism. It originated from classical philosophies of John Dewey and George Herbert Mead (Johnson and Ogwuegbuzie, 2006). Classically, pragmatism was an alternative way of attending to practical issues of reality, and sought to find truths to solutions of problems by looking at consequences of actions. Pragmatism was later developed by neo-pragmatists such as Cresswell (2009) and Ogwuegbuzie and Johnson (2006). Research driven by pragmatism recognises the existence of the natural world as well as the social world (Johnson and Ogwuegbuzie, 2006). Pragmatism therefore, considers practical consequences to be crucial in the quest for meaning and truth. Pragmatism’s primary focus on practicality and real problems makes it reject rigid approaches to knowledge presented by positivist and interpretivism.

Pragmatism, made this thesis see the research problem as more important than the dictates of traditional research paradigms. This thinking informed the study to adopt methods and sources of data that were most appropriate in solving the problem. For instance, pragmatism informed the thesis to use different methods to construct knowledge on the problem of the teaching of entrepreneurship in universities basing on experiences and practices of lectures and students. Pragmatism informed the thesis that knowledge on the reality of entrepreneurship teaching in degree programmes was to be constructed based on the reality of the experiences of lecturers and students. Multiple approaches to investigate the problem in its social and historical context were
adopted. Conflicting theories and perspectives were also accepted and used in the light of how well they helped to answer research questions. The overall approach to research was therefore of mixing quantitative and qualitative data collection and data analysis procedures within the same study. This was in line with Creswell’s (2012), views that pragmatism does not favour any single belief or set of beliefs about reality. Its logic is that while the world exists in reality and relative spheres, there is need for research to focus on the desired outcomes of the research and not the process. Pragmatism, therefore, enabled this study to focus on areas that worked using whatever ontological, epistemological and methodological approaches that suited the context of the research.

Pragmatism strengthened the research in many ways. As pointed out by Creswell (2012), pragmatism enabled the researcher to reflect on data from various theoretical perspectives thereby strengthening the research design, instrumentation, validity and credibility of the study. Pragmatism also strengthened the study by complementing strengths of positivism and interpretivism. For example, the study adopted positivist assumptions of seeing entrepreneurship curriculum as external and objective reality while incorporating interpretivism into the study (Denzin and Lincoln 2010). Pragmatism enabled the researcher to use survey methods that detached the researcher from the subjects and to also interact with the subjects in the same study. Guided by this pragmatic thinking, the thesis assumed that while the truth about the nature of entrepreneurship curriculum and variables that drive its implementation existed independent of the researcher and respondents’ minds, it was also possible to get insight into how the researcher and subjects interpreted these underlying issues. This flexibility allowed the thesis to study the context in which the curriculum in degree programmes was formed and implemented. A context
free research could not have been sufficient (Creswell, 2012). Through pragmatism, the thesis overcame limitations inherent in pure positivism for example in describing contexts of competence development and implementation strategies. These elements needed the researcher to interact with the subjects and verify data. In addition, a mixture of different approaches to study the same issues also neutralised the weaknesses of induction and deduction leading to validity of findings. For example, assessing integration and culture promotion strategies from a purely objective view ignoring the internal perspective could not have brought absolute truth (Cohen and Morrison, 2006). Pragmatism was appropriate in solving the problem because it allowed coverage of the big population while removing the limitation of sole reliance on quantification without considering the context in which the curriculum was formed and implemented (‘O’ Leary, 2014).

Adopting pragmatism contributed to the advancement of knowledge. For instance, by taking a pragmatic stance, the thesis did not completely reject positivist beliefs but sought to contribute towards reforming positivism, making it more appropriate to studying entrepreneurship within its social realities (Baskar and Callionices, 2008). Pragmatism, therefore, enabled the thesis to develop the space between positivism and interpretive paradigm (Cresswell, 2002). However; the researcher took note of the shortcomings of pragmatism where sometimes pragmatic researchers fail to provide satisfying answers to the question of whom the pragmatic solution is useful to. The next section illustrates how pragmatism was arrived at from the two paradigms of positivism and interpretivism. The section does so by discussing ontological and epistemological assumptions of positivism and interpretivism before arriving at the pragmatism paradigm. In the process an attempt is made to ground pragmatism into the research problem.
3.2.1. Ontological Assumptions

Ontology is defined as the study of ‘being’ (Sharff, 2007). In the same vein Creswell (2002) defines ontology as the study of reality while Babbie (2010) views it as a system of beliefs that reflects the researcher’s interpretation of what constitutes reality. According to Cohen, Manion and Morrison (2006), ontology leads to questions of whether the reality of entrepreneurship was external to students and lecturers, that is, imposing it on their consciousness or whether it was the product of their consciousness. Ontology also raised questions of whether entrepreneurship was an objective reality, or a product of lecturers and students’ cognition. It also raised questions of whether it was a given body of knowledge to study objectively, or it was created in the minds of students and lecturers (Creswell, 2002). It seemed therefore that ontology answered questions of what entrepreneurship curriculum was, how it was implemented and facilitated.

The thesis’ ontology emerged from the thinking that entrepreneurial research is concerned with identification, evaluation and exploitation of entrepreneurial opportunities (Alvarez and Barney, 2007). In addition, it was also influenced by the thinking that students’ personal traits, prior knowledge and social networks influenced alertness to existing entrepreneurial opportunities and ability to create opportunities (Corner and Home, 2010). The ontological assumption on the nature of entrepreneurship curriculum was, therefore, that opportunity discovery and creation, and its implementation in degree programmes and courses was facilitated by underlying elements of strategy formulation, integration, culture promotion and competence development. Next is a discussion on positivist and interpretive ontology before adopting a pragmatic stance.
From the positivist perspective, the researcher assumed that there was a single, external and tangible entrepreneurship curriculum that existed in degree programmes and courses. This was independent from the researcher’s perspective and values (William, 2011). Through this perspective, the researcher saw opportunities, and the environment that facilitated discovery of opportunities by students as an independent reality. The researcher therefore treated opportunities as if they were definable objects with material properties that could be studied from afar. This logic implied that opportunities existed independent of students’ actions and, therefore, were to be discovered and exploited by the students (Urwyler, 2006). It was also assumed that opportunities existed as given entities, and degree programmes, therefore, had to assist students to become familiar with realities of their socio-economic environments so as to be alert to these opportunities. The researcher saw the task of the curriculum as that of making students develop alertness and capacities to exploit opportunities that have greatest potential. The thesis assumed that students could be assisted to possess competences necessary to discover and exploit opportunities (Urwyler, 2006). The thesis assumed that opportunities arise from social contexts such as imperfections in markets, changes in technology, consumer preferences and dynamics in business and industry. The curriculum was therefore seen as a determining factor for generation of requisite knowledge for opportunity search and discovery as opportunities could only be discovered by alert students. This positivist logic influenced the researcher to assume that entrepreneurship curriculum is a set of ideas on searching and discovery of opportunities. However, this ontology had limitations of only seeing opportunities as given and separated from entrepreneurial action. Discussion of interpretivism is next.
Contrary to the positivist ontology, the constructivist ontology also influenced the researcher on the nature of opportunities. Through this perspective, the researcher assumed that opportunities are ‘unobservable’ and can only be explained through interpretive understanding of lecturers and students’ actions (Patton, 1990). Through this perspective, the researcher assumed that opportunities were socially constructed by students and lecturers through participation in entrepreneurial activities. The researcher understood entrepreneurial actions by students and lecturers as constructions form their interpretations and from their interactions in social networks. The researcher also assumed that students and lecturers created opportunities through interaction in social contexts within and outside their degree programmes and then moulding their actions to economic realities. The researcher therefore understood entrepreneurship curriculum as a platform where lecturers helped students to deliberately create opportunities and making meaning out of the actions. The researcher also understood entrepreneurship curriculum as collaborative process where students decided what opportunities to create and resources needed to accomplish tasks (Corner and Home, 2010). The researcher also saw the curriculum as an experiential process where students construct, deconstruct and reconstruct existing realities and forming new opportunities (Alvarez and Barney, 2007). The researcher therefore evaluated the curricula through lecturers and students’ interpretation of learning environments, activities and resources. However, this ontology had a major limitation of seeing opportunities only as relative.

In the light of the forgoing ontological orientations, the researcher adopted a pragmatic ontology that complemented strengths of the positivist and interpretive ontology (Saunders, Lewis and Thornhill, 2013). Through this pragmatic stance the researcher accepted that opportunities were
objectively given. However, these opportunities were developed by lecturers and students through social interaction (Companys and Jeffery, 2007). The researcher assumed that lecturers and students did not recognise opportunities first and act, rather they acted, waited for response from their actions, usually from the market and then they adjusted and acted again. In acting, they were then able to create opportunities that had not been created before (Alvarez and Barney, 2007). The strengths of the two perspectives were combined, for example, by assuming that opportunities came into existence through social variables like markets changes, knowledge generation or technological changes (objective existence) but students had to come across them through subjective cognitive processes developed by the curriculum in degree programmes and courses. The next section discusses epistemological assumptions of positivist and interpretive epistemology before taking a pragmatic stance.

3.2.2. Epistemological Assumptions

According to Saunders, Lewis and Thornhill (2013), epistemology is a way of understanding and explaining how researchers know what they know. Some of the epistemological assumptions are concerned with how knowledge can be acquired, how researchers come to know and how it is communicated (Cohen, Manion and Morrison, 2006). The thesis’s epistemology was therefore concerned with the relationship between the researcher and what was being researched. Epistemology was also used to determine and define sources and legitimacy of data. As pointed out by Denzin and Lincoln (2000), epistemology is a branch of philosophy that deals with sources of knowledge, limitations and weather they are intuitive, authoritarian, logical or empirical. The epistemology in this case determined at given point, whether data was something that had to be acquired, or was something that had to be personally experienced. This was useful
in providing the researcher with grounding for deciding the kind of data possible for each research question, its sources and how the researcher could ensure that the data was adequate and legitimate (Creswell, 2012). The thesis adopted a pragmatic epistemology regarding how data on opportunity discovery and creation can be understood and how strategy formulation, integration, culture promotion and competence development on the curriculum can be evaluated. The next section discusses the positivist and interpretive epistemology before taking a pragmatic stance.

The positivist epistemology made the researcher understand opportunities as existing independent of lecturers, students and researcher’s knowledge and that they appear the same. The researcher also presumed that knowledge about these opportunities can be acquired by all students in the same way regardless of their degree programmes. In addition, searching and discovery of opportunities by students require that they have prior knowledge of the opportunities (Vaguely and Julien, 2010). Hence, the researcher anticipated that the curriculum in all degree programmes and courses can facilitate opportunity search and discovery through tailor made implementation and competence development strategies. The researcher also presumed that if students already have information and knowledge from previous experiences, they can re-collect it when they start searching for opportunities in business and industry. The thesis, therefore, collected data from students and lecturers to describe curriculum implementation and competence development strategies in the light of how these influenced students’ decision making contexts. Through this epistemology, the researcher also assumed that integrated pedagogy and institutional cultures is an objective phenomenon inherent in degree programmes and influence students’ decisions to search for opportunities. The researcher also saw the decision making context of the students as risky and therefore, the curriculum has to be
facilitated by combining entrepreneurship curriculum with curriculum housing the programmes. The researcher anticipated that curriculum in degree programmes has an influence on why some students discover opportunities while others don’t. (Vaguely and Julien, 2010). Through this epistemology, the researcher understood the propensity to discover entrepreneurial opportunities as based on attributes of students and on their ability and willingness to take action.

The thesis therefore had to assess culture promotion strategies as objective elements that facilitated students’ entrepreneurial intentions. The assumption was that students who have entrepreneurial intentions can be exposed to social capital external to their realities so as to help them develop accurate views on entrepreneurship. Hence, the need for the thesis to objectively study curriculum integration and culture promotion strategies used in universities. However, this logic as it assumed that the environment from which opportunities emerge is uniform and independent of social interaction (Vaguely and Julien, 2010). This epistemology makes implementation, integration, culture promotion and competence development strategies appear as if they are objectively given and only studied with techniques independent of the subjects’ constructions. This perspective if adopted as it was could have made the researcher assume that all the facilitating variables functioned in a stable and unchanging context. The constructivist epistemology is therefore discussed next.

From the constructivist epistemology, the researcher understood opportunities as contingent upon lecturers and students and constructed through their interaction with their social environment. Through this perspective, the nature of the curriculum and the variables that facilitate curriculum implementation were explained by describing lecturers and students’
interpretations. The researcher also assumed that for students to become entrepreneurs they started from experiences in their studies the knowledge they had and their interpretation of relationships they had. This supposition influenced the researcher to assess integration and culture promotion strategies by incorporating students and lectures’ interpretations of their social realities. Through this epistemology, the researcher also anticipated that students who learnt entrepreneurship either as courses, degree programmes or informal activities were different from students who did not, since entrepreneurs perceive and assign meaning to opportunities differently from entrepreneurs. Hence, the researcher interacted with students and lecturers who were doing entrepreneurship degrees. Students with entrepreneurial capabilities were expected to arrive at opportunities that were not perceived by other students. The researcher also anticipated that the process of formation of opportunities could not be separated from lecturers and students’ perceptions, cognitive beliefs and interpretations of entrepreneurs and their actions in creating opportunities. The researcher, therefore, focused on curriculum designing and implementation, cognitive processes, social structures and the learning environment students. The thesis applied a qualitative inquiry that generated data by interpreting lecturers and students’ interpretations of the curriculum and how it was facilitated support students (Marshall and Rossman, 1999). However, this view was limited in that it assumed that knowledge about opportunities could only be arrived at through interpreting lecturers and students’ views without assessing their actions and the learning environments objectively.

The pragmatic epistemology, therefore, brought in the social context and modified the assertion that data to describe and assess strategies could only be collected purely through scientific and objective means without incorporating the social context (Lincoln 1995; Shutt, 2010). This logic
differed from pure positivism which asserted that the introduction of values and subjectivity in describing and assessing how the underlying variables facilitated implementation, eliminated objectivity and introduced bias. This logic stresses that while opportunities exist independent of students and lecturers, they exist in social contexts that impose constraints on their actions (Ojala and Puhakka, 2013). In searching and creating the opportunities, the researcher saw lecturers and students as acting through trial and error, selecting actions for or against was based on their assessments of the socio-economic environments. This position influenced the researcher to collect data by generating subjects’ interpretations and also by assessing their environments and actions. Through pragmatism, the researcher presumed that opportunities did not only exist for lecturers and students to search and discover, but to also act to create them. A pure constructivist epistemology could have only required lecturers and students’ descriptions of social construction of actions. However, the pragmatic epistemology did not only require generation of data from social construction but incorporated a quantitative inquiry into actions as well. The researcher, therefore, adopted epistemological pluralism where positivism was corroborated with interpretive epistemology (Taylor and Madina, 2013). Pragmatic epistemology was appropriate in solving the research problem because the other two perspectives had some weaknesses and appeared to have irreconcilably conflicting assumptions about the nature of entrepreneurship curriculum and how its implementation could be facilitated. Through pragmatic epistemology, the researcher maintained the strengths of both the positivist and the constructivist methods of inquiry and avoided problems of fragmentation of sub-problems. This made the sub-questions mutually inclusive, reconciling data types and sources on each sub-question (Saunders, Lewis and Thornhill, 2013). The pragmatic epistemology offered the researcher a two pronged process of arriving at opportunity discovery and creation and how it was facilitated in degree
programmes (Ojala and Puhakka, 2013). Pragmatic epistemology accommodated the process where subjects had to first search to discover initial venture opportunities before recreation, development and redefining their ideas while embracing emergent issues in their social contexts (Ojala and Puhakka, 2013). In this sense pragmatism favoured mixed methods approach that allowed triangulation of data and collection methods to meet the research needs at hand (Saunders, Lewis and Thornhill, 2013). However, adopting the pragmatic stance required that at each stage of inquiry, there be an assessment of the researcher’s values to ensure that each method applied, be it qualitative or quantitative conformed to principles of axiology.

3.2.3. Axiology

Axiology is an assessment of the researcher’s values by the researcher himself at all stages of the research process. Since the epistemology was influenced by both qualitative and quantitative inquiries, the researcher adopted a pragmatic axiology (Saunders, Lewis and Thornhill, 2013). On one hand, the positivist axiology ensured that the quantitative data inquiry was a value free process. The researcher upheld independent and objective attitudes during data collection. In this regard the researcher incorporated objectivity during the survey of lecturers and students’ opinions across all degree programmes. This inquiry covered all research questions and therefore injected a value free data into the whole study. On the other, hand interpretive axiology brought in the qualitative inquiry as a value laden process. In this regard the researcher accepted his values and that of the subjects to be part of the data. All research questions had aspects that allowed the respondents to bring their own values and others that required the researcher to interact with the subjects as part of the qualitative inquiry. In the main, the researcher adopted a pragmatic axiology that saw both quantitative and qualitative inquires as value laden. The researcher accepted that there were biases emanating from his and other lecturers’ cultural
orientations, experiences, academic, and professional backgrounds. These values influenced the researcher’s choice of research paradigm, design, instruments, data presentation and analysis techniques. The researcher was aware that data was influenced subjects’ values and therefore reflected on every stage of data collection in order to address the needs of each research question. The researcher checked to see if every choice of approach he made fitted the type of enquiry. Before every stage was executed, the researcher reflected on his values and biases before making decisions about the approach. At every stage in the research report, reasons for leaving out approaches that could have been taken were explained and strengths in the techniques employed were articulated. The research methodology is discussed next.

3.3. Research Approaches
The study was a mixed methods enquiry that adopted qualitative and quantitative approaches of inquiry and used them concurrently. The researcher took note that the two approaches have paradigmatic differences that makes them look incompatible. However, they were used on the basis that both are empirical approaches to inquiry able to collect and generate data to describe and explain the phenomena (Kennedy, 2009). Their use was also justified by the thinking that researchers must use mixed methods in a way that complement strengths and overcome weaknesses of the other. The next section discusses strengths and weaknesses of both approaches and justifies their combined use in the mixed methods study.

3.3.1. The Quantitative Approach
The quantitative inquiry formed the basis of the methodology by defining the target population of all universities, lecturers and students. Through the quantitative inquiry, two research questions assessed curriculum integration and culture promotion strategies while the other two
analysed implementation and competence development strategies. The quantitative inquiry contributed by filling gaps regarding universal underlying variables that facilitate implementation of entrepreneurship curriculum strategies in all degree programmes. The quantitative inquiry enabled the researcher to use the survey method. The survey method surveyed lecturers and students’ perceptions. This enabled collection of data that could be generalised to all universities and degree programmes. The quantitative approach was ideal in studying the population that was so large for the researcher to physically reach out to all lecturers and students. The quantitative approach also enabled the researcher to use random sampling techniques. These were useful obtaining representative samples of universities, programmes, lecturers and students which in turn allowed generalisation to be done to give a holistic picture of the nature of entrepreneurship curriculum applicable to all universities, degree programmes and courses. The quantitative approach allowed use of questionnaires to collect large quantities of data from the large population. This promoted standardisation of responses, assessment and pronunciation of variables.

However, the researcher observed shortfalls inherent in the quantitative approach. As pointed out by Bryman (2006) quantitative research produces data that are abstract and too general to apply to specific contexts. It misses out some occurring phenomenon because of its emphasis on theory. In the same context, Brannen (2005) argues that quantitative research focuses on repetitions and predictions, thereby limiting researcher’s perceptions to predictable aspects of human behaviour. Using it on its own in this study could have disregarded critical elements such as attitudes, values and beliefs of lecturers and student and researcher’s values as well. The quantitative inquiry on its own was insufficient in investigating the dynamics of teaching in
entrepreneurship degree programmes, courses and co-curricular activities as these operated in multiple configurations and contexts. The quantitative inquiry was also insufficient in studying behavioural, interpersonal and environmental realities in the implementation of entrepreneurship curriculum. The shortfalls of the quantitative inquiry were mitigated by the qualitative approach which is discussed next.

3.3.2. The Qualitative Approach

This qualitative inquiry complemented the quantitative inquiry by addressing all research questions covered by the quantitative inquiry. The approach strengthened the study as all research questions explored social contexts in which curriculum in entrepreneurship degree programmes was formed and implemented. The qualitative approach was ideal in studying the social context seen as a critical element influencing implementation of entrepreneurship curriculum in degree programmes. The qualitative inquiry also contributed by allowing lecturers and students to express their own interpretations of reality. This was important in interpreting different contexts regarding the implementation of entrepreneurship curriculum in degree programmes, courses and extra curricula activities. This was in line with views by Saunders, Lewis and Thornhill (2013) that the qualitative approach is ideal in exploring complex social realities using experiences of students and lecturers involved. The qualitative approach was, therefore, critical as it studied entrepreneurship curriculum in its natural settings.

However, the researcher also took note of shortfalls of the qualitative approach. As pointed out by Ogwuegbuzie and Leech (2006), the qualitative approach is predominantly criticised on the basis of subjectivism. Bryman (2006) argues that the qualitative approach lacks consistency and
accuracy. While many qualitative researchers argue for the importance of studying meanings that subjects attach to the phenomena under study, the researcher took note of Kennedy’s (2009) argument that some subjects attach false interpretations and provide perceptions that are different from their consciousness. The researcher took note of the argument by that a study’s results must not only be confined to meanings people attach to the phenomena under study but must also be driven by observable and unobservable facts. In this study therefore, relying on qualitative inquiry alone could have reduced credibility. The thesis therefore adopted the mixed approach.

3.3.3. The Mixed Approach

The thesis combined the quantitative and qualitative approaches and used them concurrently. While use of the two approaches was inevitable due to the nature of the problem, the researcher took note of the debate surrounding their use. Firstly, there is a school of thought that argues that qualitative and quantitative inquiries are irreconcilable and equally exclusive on the basis of their ontological, epistemological assumptions (Bryman, 2006). In the same school, other views claim that research problems are oriented towards either qualitative or quantitative approaches and therefore both inquiries cannot be used in the same study (Kennedy, 2009). However, there is another school of thought that supports combining the two approaches (Ogwuegbuzie and Leech, 2006). The school argues that neither approach is superior to the other. Emphasis therefore must not be on polarizing them but on complementing them. This logic asserts that polarising the two approaches restricts, rather than advancing frontiers of new methodologies (Ogwuegbuzie and Leech, 2006). This thesis, therefore, combined the two methods on the basis of strengthening the weaknesses of each method by the strength of the other. Both approaches were critical in addressing the problem. A single approach could not have succeeded in managing divergence
and bringing totality to the study (Brannen, 2005; Kennedy, 2009). Combing qualitative and quantitative approaches was therefore done in relation to the problem, paradigm, sub-questions, conceptual and theoretical frameworks. Mixing the two approaches was done in the light of aligning the methodology to the underlying ontological and epistemological assumptions of the thesis and, therefore, formed the foundation upon which the research’s methodology was based.

Mixed methods research emerged from the pragmatic research paradigm that allowed mixing of the qualitative and the quantitative approaches. The understanding was that the use of one method only, had limitations in studying the reality of curriculum implementation. According to Creswell (2012), mixed methods research is an approach that uses both quantitative and qualitative methods in the same study. It is a combination of quantitative and qualitative methods complimenting each other in investigating the research problem as compared to using only one method. Creswell (2012) claims that mixed methods evolved in response to the observed limitations of both quantitative and qualitative designs. The thesis, therefore, adopted mixed methods research. This was in line with Sanders, Lewis and Thornhill, (2013), who claim that mixed methods research is associated with the pragmatic paradigm by collecting data in a simultaneous or sequential manner using quantitative and qualitative methods. This was done in a manner that best addressed the research questions. The researcher also adopted Creswell’s (2012) view of seeing a mixed methods researcher as one who bases claims on pragmatic grounds bounded by quantitative and qualitative traditions. These views are also supported by Sanders, Lewis and Thornhill, (2013), who claim that in mixed methods research, the researcher collects analyses data and merge findings, drawing inferences from quantitative and qualitative methods in the same single study.
Mixed methods research is in line with the research paradigm and the theoretical framework. The link to the research paradigm is echoed by Saunders, Lewis and Thornhill (2013), who claim that collecting data from purely outsider perspective in an effort to maintain objectivity while ignoring the insider (subjective) perspective has limitations. The mixed methods research therefore avoided a complete detachment from lecturers and students by allowing use of none probability sampling, and interaction through interviews and document reviews. At the same time the methodology maintained objectivity through probability sampling and the use of questionnaires leading to generalisation of findings. The methodology was driven by the assumption that the quest to acquire knowledge on the nature of entrepreneurship curriculum and the underlying variables that drive its implementation could not be done using quantitative methods only without the support of qualitative methods.

The mixed methodology was in line with the dictates of the theoretical framework. The equilibrium theory that drove this study favoured the quantitative inquiry by informing that opportunities for venture creation and start-ups by university students were objectively available and students had to exploit them. On the other hand, the theory also influenced the methodology to use the qualitative inquiry. For instance, the theory informed this thesis that opportunities could be created by students and lecturers through support from the social capital. The qualitative inquiry, therefore, applied interviews and document reviews to generate lecturers and students’ interpretations of experiences during opportunity search processes and how the curriculum contributed to opportunity creation. The methodology was also in line with the theoretical framework on the choice of data sources. For example, data sources were informed by
equilibrium theories, particularly where they emphasised the role of lecturers in curriculum goal setting and design of teaching methods. Lecturers were the creators of learning activities that students experienced in their quest for opportunity search, discovery, and exploitation. Choice of data sources was influenced by theories that explained how students became entrepreneurial. Students therefore became sources of data for describing and assessing how their specific degree programmes and courses capacitated students to search, discover and opportunities. While certain experiences were uniform across all universities and degree programmes to warrant quantitative data sources, there were specific areas where the contextual issues required the qualitative data sources. The mixed methodology allowed the use of both quantitative and qualitative instruments to collect data to answer each research question. Interviews addressed issues that needed qualitative inquiries with regard to learning contexts in specific entrepreneurship degree programmes and courses. Interviews were therefore needed where the researcher interacted with the students and lecturers.

Mixed methods research strengthened this thesis in many ways. Mixed methods research enabled the thesis to strive for complementarities, completeness and diversity of mutual viewpoints about similar and opposing points of the same experiences or associations. Mixed methods research enhanced credibility of the study through use of reliability, validity, trustworthiness and triangulation measures in the same study. Mixed methods also contributed value into the research by adding insights that could have been missed if only a single method was used. Mixed methods increased the capacity to generate credible results compared to using only qualitative or quantitative methods in the study. Mixed methods research also enabled the thesis to investigate complementary views about the teaching of entrepreneurship in degree programmes. This
enabled the thesis to develop a complete divergent picture of the nature of entrepreneurship curriculum and the underlying variables that facilitated its implementation in all degree programmes.

Through corroboration of quantitative and qualitative approaches, credibility of inferences obtained from one approach was increased. This was in line with Creswell’s (2002), argument that the hallmark of mixed methods research is that researchers should use multi-method procedures to ensure reliability and validity of research findings. Mixed methods research strengthened the thesis by enabling the researcher to use quantitative and qualitative methods simultaneously to address all research questions in a confirmatory and explanatory manner. This provided a stronger inference than a single method. The combination of quantitative and qualitative methods to answer each research question allowed for a robust analysis of data on each research question drawing from strengths of quantitative and qualitative approaches and minimising weaknesses of the methods. Mixed methods research also strengthened the thesis by combining quantitative and qualitative methods in the same study to produce complete and divergent picture on the nature of entrepreneurship curriculum and how it was facilitated. This divergence and completeness was vital in informing theory and practice. Its inclusivity and complementary nature allowed for integration of findings from both quantitative and qualitative inquiries on each research question, thereby enabling the thesis to be more comprehensive in addressing each research question.

The mixed methods research addressed the needs of all research questions. For example, questions that analysed curriculum implementation and competence development strategies had qualitative orientations but also needed support from the quantitative orientation. On the other
hand, questions on assessing the extent of integration and culture promotion had quantitative orientations but needed support from the qualitative inquiry. The mixed approach enabled synthesis of data to analyse and assess variables of strategy formulation, integration, culture promotion and competence development strategies across all degree programmes. Despite these strengths the researcher took note of difficulties encountered in mixed research particularly where a single researcher is involved in a big study. The researcher was also aware of criticism from methodological purists who argue for never to mix qualitative and quantitative methods in a single study. All these issues were addressed through the adoption of the convergent parallel design.

3.4. Research Design

The thesis used the convergent parallel mixed methods design that was drawn from mixed methods research. Guba and Lincoln (1995) view a research design as a plan of action which links philosophical foundations and methodological assumptions with research methods. A research design was, therefore, a research strategy developed from underlying methodological assumptions and specified respondents, data gathering techniques, data presentation, analysis and discussion (Saunders, Lewis and Thornhill, 2013). The thesis also adopted Taylor and Madina (2013) view of taking a research design as a strategy developed to seek answers to research questions. All illustrated next, this thesis adopted the convergent parallel mixed methods design to represent pragmatic and systematic procedures to collect, present, analyse and discuss the data.
3.4.1. Convergent Parallel Mixed Methods Design

The thesis adopted the convergent parallel mixed methods design that focused on the extent to which quantitative and qualitative results converge. According to Creswell’s (2009), convergent parallel mixed methods design is a type of design in which quantitative and qualitative data are collected in parallel, analysed separately and then merged. This view is in line with Saunders (2013) who claims that the convergent parallel mixed methods design involves implementing qualitative and quantitative inquiries concurrently in the same study. In this study, quantitative and qualitative data collection was done concurrently during one phase of the study with both methods given the same priority.
**QUANTITATIVE DATA COLLECTION**
- Survey method
- Random selection of universities, lecturers and students
- Use of questionnaires

**QUALITATIVE DATA GENERATION**
- Multiple case study method
- Purposive selection of students and lecturers
- Use of interviews and document reviews

**QUANTITATIVE DATA ANALYSIS**
- Use of descriptive statistics in data presentation and analysis

**QUALITATIVE DATA ANALYSIS**
- Use of thematic analysis in data presentation and analysis

**MERGING OF RESULTS**
- Matrices relating qualitative themes to quantitative variables’
- Use of tables of quantitative and qualitative data

**INTERPRETATION**
- Illustrations of merged results to produce a better understanding of research questions
- Discussion of merged results

Figure 3.4. *Convergent Parallel Mixed Methods Design*

Source: Author (2018).
Figure 3.4 shows the convergent parallel mixed methods design depicting both qualitative and quantitative inquiries executed concurrently. The quantitative inquiry was a survey method that involved random sampling of universities, lecturers and students. Quantitative data was then collected using questionnaires. The design also depicts the qualitative inquiry that used a multiple case study method. The method used purposive samples of lecturers and students at universities that had entrepreneurship degree programmes, courses and co-curricular activities. The qualitative inquiry used semi-structured interviews and document reviews to generate data. The design merged data from the two inquiries through qualitative themes and tables of quantitative variables answering each research question. Quantitative tables show data in the form of variables while qualitative tables show data in the form of emerging themes and subthemes. The design shows that interpretation and discussion of findings was done under each mode of enquiry. In the main, the design fundamentally involved applying quantitative and qualitative methods concurrently and merging results on each research question. Contributions of each method of inquiry on each research question strengthened the thesis. As shown next, the design had a number of advantages complementary of both quantitative and qualitative inquiries.

The design accommodated the use of quantitative methods which contributed by allowing taking of representative samples of universities, programmes, lecturers and students from a population of all universities in Zimbabwe. This facilitated a systematic study of underlying population parameters. The design allowed use of questionnaires making it possible to collect data beyond the researcher’s physical capacity of reaching out to all universities, programmes, lecturers and students. The strength of the quantitative inquiry was that it enabled a collection of large quantities of data and to the use of descriptive statistics to summarise subject’s perceptions to
access each variable (Saunders, Lewis and Thornhill, 2013). On the other hand, the design accommodated the qualitative enquiry. This inquiry contributed to the study by probing into social contexts where subjects expressed their own interpretations (Denzin and Lincoln, 2010). The qualitative enquiry strengthened the study by enabling purposive sampling and interaction with subjects. It enabled the use of interviews that facilitated generating of data on subjects’ interpretation of reality in natural settings. The qualitative inquiry allowed the use of source documents that provided data on academic structures and provided evidence of current and past events in degree programmes.

However, the design had shortfalls. The design required great effort and expertise to adequately execute the two separate methods. The researcher took note of the difficulties associated with concurrent application of methods by a single researcher. It was difficult for the researcher to apply the required expertise with assistance from a team to give equal weight to each data type. The design provided challenges in working with different sample sizes particularly when merging datasets. There were different sample sizes because of the quantitative and qualitative data which was collected for different purposes. The design presented challenges where the quantitative and qualitative results did not agree. While some contradictions provided new insights into the research questions some contradictions were difficult to solve. The researcher overcame this by collecting additional data. As shown in figure 3.4, the quantitative inquiry used survey methods while the qualitative inquiry used multiple case study methods. These are discussed next in the context of the design.
3.5.1.1. Survey Method

The quantitative component of the design used the survey method. Survey methods are methods of inquiry that gather original data for purposes of describing perceptions and opinions of subjects (Creswell, 2012). In this case the survey served a purpose of collecting lecturers and students’ opinions and views whose population was too large to physically reach out to (Merterns, 2010). The survey method enabled the researcher to be as independent as possible from data sources. This in turn contributed to the understanding of reality of entrepreneurship curriculum, implementation strategies and dynamics of facilitating variables using data feelings and attitudes of lecturers and students. However, surveys only go as far as collecting and analysing descriptive data. On its own, it could not have been sufficient without the support of multiple case study method that is discussed next.

3.5.1.2. Multiple Case Study Method

The qualitative component of the design used multiple case study method. According to Saunders, Lewis and Thornhill, (2013) a multiple case study is a method of inquiry that seek to answer specific research questions using data from a range of cases. According to Denzin and Lincoln (2010) the cases may be programmes or activities bounded by time and place. Denzin and Lincoln (2010) assert that multiple case study methods have a multiplicity of perspectives and focus on specific contexts, employing multiple sources of data from a variety of participant perspectives. The multiple case study method was adopted because of its strength in exploring the nature of entrepreneurship curriculum and its implementation in each entrepreneurship degree programme as a case bounded by specific context. According to Saunders, Lewis and Thornhill (2013, multiple case study methods strengthen results by replicating patterns of
configurations in each case. The cases replicated different configurations of entrepreneurship teaching in degree programmes, courses and co-curricular activities as each case served to confirm or disconfirm the conclusions drawn from other cases. Data from multiple cases was purely qualitative, generated from semi-structured interviews and source documents. Source documents supported the qualitative inquiry by providing records of activities that happened in the past and to validate data from entrepreneurship lecturers and lecturers. Document reviews also provided data on aims and content on opportunity discovery and creation in degree programmes and how the curriculum was implemented. Analytical rather than statistical generalisations were used in a way that enabled merging and comparison with data from the quantitative inquiry. The multiple case study method provided depth in investigating the nature of entrepreneurship curriculum and how it was taught in specific entrepreneurship degree programmes and courses. The method was appropriate in exploring different situations of curriculum implementation where variations in contextual issues needed to be explained. However, the use of multiple case study methods alone could not have sufficed. Results therefore had to be merged with quantitative data since the multiple case study methods covered all research questions. Merging of results is discussed next.

3.5.1.3. Merging of Results

The design had provision for merging results. This was possible since both methods covered the same research questions. In the end, the convergent parallel mixed methods design strengthened the research by merging results from these two concurrent methods of inquiry. Merging results at data presentation and analysis provided the researcher with an opportunity to reflect on researcher biases (Taylor and Madina, 2013). Reflection was made possible through use of
descriptive statistics while allowing data to emerge through interpretation of subjects’ qualitative responses. Merging of data was the major design’s strength as it complemented objectivity and subjectivity and deduction and induction in studying the reality in which implementation of entrepreneurship curriculum took place. The design also provided opportunities for the researcher to confirm, cross validate, corroborate and triangulate findings. This increased credibility by overcoming the weaknesses inherent within one method. For example, on all research questions, the researcher was able to directly compare and contrast quantitative with qualitative findings and enhanced understanding of the nature of entrepreneurship curriculum and its implementation. The strength of the design was characteristic in that both types of data were collected during one phase of the research at roughly the same time with each type of data collected and analysed carefully using the techniques traditionally associated with its type.

3.5. Target Population and Sample

This section discusses the population, sample and sampling procedures. As a mixed methods study, the thesis used proportional random sampling, stratified random sampling and purposive sampling.

3.5.1. The Population

The target population in a research context is any group of individuals that has one or more characteristics in common and of interest to the researcher (Saunders, Lewis and Thornhill, 2013). In this study, the population consisted of students and lecturers in the 16 universities in Zimbabwe. The community of 16 universities comprised of 10 state universities and six private universities. Among the six private universities, five are church owned while one is owned by
Africa Capacity Building. All students and lecturers in these 16 universities became the target population. The population was therefore too large, making it indispensable to use probability sampling to obtain a representative sample of students and lecturers. Due to ethical reasons, it was not permissible to obtain and publish population statistics of students and lecturers in all universities in Zimbabwe. Sample characteristics and size are discussed next.

3.5.2. The Sample

Table 3.1

Sampling Frame

<table>
<thead>
<tr>
<th>Institution</th>
<th>Ownership</th>
<th>Faculties</th>
<th>Under-graduate Programmes</th>
<th>Entrepreneurship Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Bindura University of Science Education</td>
<td>State</td>
<td>5</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>2 Chinhoyi University of Technology</td>
<td>State</td>
<td>7</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>3 Great Zimbabwe University</td>
<td>State</td>
<td>4</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>4 Gwanda State University</td>
<td>State</td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>5 Harare Institute of Technology</td>
<td>State</td>
<td>4</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>6 Lupane State University</td>
<td>State</td>
<td>3</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>7 Midlands State University</td>
<td>State</td>
<td>9</td>
<td>25</td>
<td>1</td>
</tr>
<tr>
<td>8 National University of Science and Technology, Zimbabwe</td>
<td>State</td>
<td>7</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>9 University of Zimbabwe</td>
<td>State</td>
<td>10</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>10 Zimbabwe Open University</td>
<td>State</td>
<td>6</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>11 Africa University</td>
<td>Private</td>
<td>3</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>12 Catholic University in Zimbabwe</td>
<td>Private</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
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<td>13 Reformed Church University</td>
<td>Private</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>14 Solusi University</td>
<td>Private</td>
<td>6</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>15 Women’s University in Africa</td>
<td>Private</td>
<td>3</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>16 Zimbabwe Ezekiel Guti University</td>
<td>Private</td>
<td>5</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
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</tbody>
</table>

Source: Author (2018)

Table 3.1 shows 16 universities from which six universities were randomly selected. For the quantitative inquiry, six universities were representative of 16 universities in Zimbabwe. All universities had 79 faculties comprising of 370 undergraduate programmes. Out of the 370 programmes, five were entrepreneurship programmes (Appendix, 2). All faculties in the six universities were then put together and comprised 24 faculties. Two degree programmes were
then randomly drawn from each of the 24 faculties to make up 47 degree programmes after combining programmes that had similar names. From each of the 47 programmes, two lecturers and five students were randomly selected. A total of 235 students and 94 lecturers made up the sample of 329 respondents. For the qualitative inquiry, there were five entrepreneurship degree programmes purposively selected from all universities. A total of 20 students and five lecturers from entrepreneurship programmes, courses and extra-curricular activities took part in interviews.

3.5.3. Sampling Procedures

Since the thesis used mixed methods research, it used parallel samples for the quantitative and qualitative inquiry respectively. Entrepreneurship lecturers and students used in the qualitative component of the study were drawn from the same population. The sample for the quantitative method of inquiry was drawn using probability sampling techniques while samples for the qualitative inquiry were drawn using none probability sampling techniques. Probability sampling techniques used were, proportional random sampling, to select universities, and stratified random sampling, to select lecturers and students. This was done in order to produce a representative sample large enough for the quantitative inquiry to be conducted. For the qualitative inquiry purposive sampling was used to select students and lecturers in entrepreneurship degree programmes. This was done in order to identify to lecturers and students in entrepreneurship studies. These concurrent sampling strategies allowed the researcher to triangulate the results from the separate quantitative and qualitative component of the research and confirm, cross validate, or corroborate findings. The three sampling techniques that were employed are discussed in detail next.
3.5.3.1. Proportional Random Sampling

Proportional random sampling was a sampling technique where the population contained two strata of universities with different characteristics and each stratum having a proportionate ratio of universities to the other stratum (Saunders, Lewis and Thornhill, 2013). From the population of 16 universities the stratum of state universities comprised of 10 state universities while the strata of private universities had six. This population was therefore heterogeneous and proportionally mixed in the given ratio. From each stratum a random sample, proportionally representing the numerical quantity of universities in each strata was drawn this sampling technique had strengths in that it produced a sample that represented the proportional design of the population of universities in Zimbabwe. It minimised bias in selection of universities.

3.5.3.2. Stratified Random Sampling

Stratified random sampling was used to draw lecturers and students from sampled programmes. According to Creswell (2012), stratified sampling is a sampling procedure where the population is divided into non-overlapping groups and then a random sample of respondents selected from each group. Each sampled university was made up of academic faculties and together the six sampled universities formed a stratum of 24 faculties. Two programmes were then randomly sampled from each faculty to make a total of 47 degree programmes after combining programmes that had similar names. From each sampled programme, two lecturers and five students were randomly selected to make a total of 235 students and 94 lecturers. The strata were therefore represented by faculties which in turn were broken into programmes. A random sample of programmes was drawn from each faculty followed by another random sample of tutors and students drawn from each programme. This procedure enabled each student and each tutor to have an equal chance of being selected thereby making the sample as representative as possible.
Stratified sampling ensured that the sample best represented the population of lecturers and students with regards to the degree programmes they represented. Stratified sampling minimised sample selection bias and ensured that certain faculties and degree programmes were not overrepresented or underrepresented. Stratification ensured that the sample accurately reflected the population and ensured that each faculty and degree programme received proper representation within the sample. This method was easy to apply as the students and lectures were already classified in faculties and degree programmes.

3.5.3.3. Purposive Sampling

Purposive sampling was used to select entrepreneurship degree programmes and lecturers and students from these programmes. This was a non-probability sampling technique of selecting entrepreneurship degree programmes that carried entrepreneurship curriculum and lecturers and students engaged in the curriculum (Denzin and Lincoln, 2000). The following programmes made up the purposive sample; Bachelor of Commerce Honours Degree in Entrepreneurship, Bachelor of Commerce Science Honours Degree in Entrepreneurship, Bachelor of Science Honours Management and Entrepreneurship Development Studies, Bachelor of Commerce degree in Entrepreneurship and Bachelor of Commerce degree in Entrepreneurship and Business Management. Purposive sampling was a deliberate choice of degree programmes due to the quality of data that existed there. Entrepreneurship degree programmes that were in universities not covered by the proportional sample were also covered. Lecturers and students in universities with no entrepreneurship degree programmes but were engaged in entrepreneurship courses and extra-curricular activities were also purposively sampled.
Purposive sampling enabled the researcher to identify entrepreneurship degree programmes and courses from which lecturers and students with requisite data were identified. It was a non-random sampling technique that did not require prescribed numbers of (Creswell, 2002). This sampling procedure was ideal because it enabled the researcher to use his judgements to reach out to the lecturers and students perceived to have knowledge and experiences from participating in entrepreneurship studies. The subjects became rich sources of data generated on the virtue of their knowledge and experiences with the curriculum.

Advantages of purposive sampling were that it enabled the researcher to identify the programmes together with students and lecturers experiencing the real dynamics of entrepreneurship curriculum. Purposive sampling did not prescribe numbers of programmes, lecturers and students to be sampled (Patton, 1990). The numbers depended on the researcher’s judgements and data saturation. This technique therefore was ideal for gradual data generation of data through member checking and prolonged staying and repeated sampling. Purposive sampling gave the researcher an opportunity to focus on lecturers and students that were of more interested in participating and the researcher had to be certain in selecting cases deemed most informative to address the research questions. Purposive sampling allowed the use of a small sample that gave the researcher opportunity to focus on in-depth narrative data generated by cases. This data was very handy in complementing quantitative data on each research question. Purposive sampling allowed the researcher to build a sample of students and lecturers that was homogeneous in terms of their experiences with the entrepreneurship curriculum. This enabled the researcher to generate data that addressed all research questions.
3.5.4. Pilot Testing

Pilot testing was done to test appropriateness of the research design, sampling techniques and instrumentation. Saunders, Lewis and Thornhill (2013) define a pilot study as a trial run of what is intended to be a later larger project. In the same vein, Creswell, (2002) claim that a pilot study is conducted prior to a larger research to determine whether the methodology, sampling, instruments and analysis tools are adequate and appropriate.

The pilot test was done at a university that was not included in the study. This was a campus based university and therefore, its faculties, programmes, lecturers and students’ attributes and characteristics were similar to those of the target population. As suggested by Marshall and Rossman (1999), the test was done in order to assess feasibility of the study, suitability of the research design and validity of instruments. Due to ethical reason, it was not possible to publish the population of the university. However, a sample of 12 lecturers and 30 students were selected using sampling techniques proposed in the study. The university had three faculties that together had 18 undergraduate degree programmes. Six programmes were randomly drawn from which two lecturers and five students were selected per programme. Questionnaires were administered to all 42 subjects while two lecturers and five students from commerce programmes were further interviewed. The pre-test questionnaires had provisions for respondents to give comments on questions they thought were ambiguous. Provision was made for responses that had not been provided for and for suggestions on improving the instrument for interviews. The researcher was given verbal feedback by each participant.
Pilot testing helped the researcher to check clarity of wording of items, suitability of questions, instructions and layout. Pilot testing also eliminated ambiguity and difficulties in instructions. The researcher also checked the time taken to complete the instruments. The test revealed omissions and identified redundant questions. Lecturers who completed the questionnaires observed that there was need for pen ended questions at the end of each section which offered freedom for additional comments. This arose after discovering that the researcher’s pre-suppositions of constructs limited data input. Some questions that applied more to certain situations than others were seen as redundant and were removed and catered for through open ended questions. As observed by Cohen, Manion and Morrison (2006), pilot testing provided the researcher with a final opportunity to improve research instruments before finally releasing them to the sampled participants.

3.6. Data Collection Methods

Before data collected started, a letter asking for permission to carry out the research in universities was send to the Ministry of Higher Education, Science and Technology Development. Permission was granted and letters were sent to all sampled universities accompanied by clearance from the researcher’s university and the ministry. Accompanying the letters were brief outlines of research aims, objectives, design and methods to be used to collect data. Justification of the research was also provided highlighting the thesis’s relevance to university education. After permission had been granted by responsible institutions letters were sent to faculties and departments hosting sampled programmes inviting their participation. These letters explained how the programmes were sampled and the proposed methods of selecting students and lecturers to take part. The invitations also explained data collection instruments to be employed.
3.6.1. Quantitative Data Collection Methods

During the first round of data collection, the researcher took two to three consecutive days at each university. In subsequent visits, the number of days was determined by the nature of data required. During data collection from lecturers, the researcher self-administered the questionnaires. In some cases, questionnaires were given to chairpersons and heads of departments who distributed the questionnaires to lecturers in sampled programmes. In such cases the purpose of the research was further explained to respondents by these gate keepers. Completed questionnaires were then collected from the gate keepers on the same day. In other cases, the researcher personally delivered questionnaires to lecturers and collected them on the same day. In some cases, lecturers completed the questionnaires while the researcher was waiting. This enabled the researcher to do field editing at collection.

For students, the researcher personally administered the questionnaires. However, these mechanisms varied from university to university and from programme to programme. In some cases, the researcher was accompanied by lecturers to visit students in sampled programmes. In other cases, the researcher used time tables and room schedules to identify students. In both cases the researcher personally administered questionnaires to students while they were assembled together in their learning groups or at session breaks. This procedure assured that the questionnaires were delivered to appropriate programmes in adequate numbers. This process enabled the researcher to do field editing of every questionnaire that he collected. The process of field editing involved checking completed questionnaires for script readability, data omission, and consistency (Cresswell, 2012). Field editing assured completeness and readiness of data for
coding. Where there were omissions and errors, the researcher asked the respondents to correct them on the spot. This process also enabled the researcher to clarify unclear responses.

3.6.2. Qualitative Data Collection Methods

Interviews were carried out after the questionnaires were administered. During the researcher’s visit to the institutions semi-structured interviews were administered to lecturers and students in entrepreneurship degree programmes and courses. The researcher made consecutive visits to particular institutions to conduct interviews with entrepreneurship lecturers and students. The numbers of visits were determined by the level data saturation. In all visits the researcher first called on chairpersons or heads of departments who then directed the researcher to relevant lecturers and students. In other cases, interviews with lecturers were conducted in their offices while interviews with students were conducted at convenient places during session breaks, lunch periods and free periods. Data collection also involved analysis of some source documents to verify complex issues arising from questionnaires and interviews. Documents provided evidence of entrepreneurship activities that had happened in the past. Discussion on specific instruments is presented next.

3.7. Instrumentation

The questionnaire was the main data collection instrument in the quantitative inquiry while the interview guide and document reviews were the main instruments in the qualitative inquiry. Questionnaires are discussed next.
3.7.1. Quantitative Data Collection Instruments

The questionnaire was the main quantitative data collection instrument. There were two separate questionnaires for lecturers and students respectively.

3.7.1.1. Questionnaires

A questionnaire is a document containing questions designed to obtain information from sampled respondents (Cohen, Manion and Morrison, 2006). The questionnaire for students and lecturers, attached as appendix 1. The questionnaire was administered to lecturers and students randomly drawn from each sampled university. In some cases, the researcher self-administered the questionnaires. In other cases, the researcher gave questionnaires to chairpersons and heads of departments who then distributed the questionnaires to sampled programmes. Two lecturers and five students per programme completed the questionnaire. The questionnaire had closed and open ended questions. Closed questions confined respondents to issues raised by the researcher on each research question through stipulated responses. Open ended questions where provided at the end of each section to allow respondents to articulate personal comments.

Questionnaires benefited the thesis in several ways. In line with Saunders, Lewis and Thornhill (2013), questionnaires collect large quantities of data over a short period of time which in turn limited the expense of data collection. (Denzin and Lincoln (2005) assert that the questionnaire provides high objectivity as the researcher influence is minimised during its completion. This enhances validity. Questionnaires guaranteed anonymity on sensitive issues and were ideal for respondents to express their opinions freely.
The use of open-ended questionnaires enabled the researcher to gain access to feelings of respondents which the research could not have foreseen (Denzin and Lincoln, 2005). As a critical realist the researcher sought to achieve objectivity by collecting data for all research questions through questionnaires. Closed questions required little time to complete. Many closed questions were included and did not require long answers. The data obtained from closed questions were extensive, easy to quantify and process. Open ended questions that the questionnaires had, provided respondents with freedom and spontaneity to the answers. As pointed out by Denzin and Lincoln (2005), open ended questions give freedom to respondents. Once respondents have understood the intention of the questions they can let the answer roam freely uncontrolled. It was, therefore, expected that respondents gave worthwhile answers as they were given a chance to express their ideas in their own expressions.

The researcher took note of limitations associated with closed questions. They had a tendency to subject the respondents to giving spontaneous responses. Over use of closed questions limited the researcher from generating knowledge of what respondents thought individually. Restricting the questions to alternatives provided by the researcher had the likelihood of making respondents feel that questions asked failed to do justice to their own ideas (Cresswell, 2012). To overcome these shortfalls, the researcher included check questions.

Closed questions had a problem of shallow coverage of answers provided by the researcher, hence the inclusion of open ended questions for probing additional information to explain and clarify issues. As advocated by Saunders, Liwis and Thornhill (2013), closed questions had shortfalls in providing opportunities to probe for more data beyond the given answers. These
shortcomings were minimised by adding open ended questions at the end of each subsection of the questionnaire. The open ended questions asked respondents to add additional comments using their own expressions.

Another shortfall was that questionnaires did not provide the researcher with an opportunity for probing issues that needed explanation and clarification beyond the given answers. Questionnaires did not provide opportunities to clarify ambiguity and to appraise non-verbal behaviour of respondents (Creswell, 2012). These shortcomings were minimised by using check questions and open ended questions already alluded to. However, open ended questions had their share of limitations. For example, they were time consuming and costly to respondents’ time. Coding of open ended answers was also very costly and cumbersome.

Respondents had busy schedules and preferred to choose from pre-determined responses than to write descriptive accounts. The study benefited from the advice of Cohen, Manion and Morrison (2006) that open-ended questionnaires should be flexible to allow respondents to give their real responses on issues under investigation. Nonetheless, many benefits were accrued as observed by that open-ended questions bring to the attention of the researcher situations, outcomes or issues that might not be anticipated when the questionnaire is designed.

The questionnaires provided a covering introduction showing the title of the research, the researcher’s name, physical address, organisation, contact telephone and e-mail address, together with an invitation to freely contact the researcher for further clarification. This was in line with advice from Saunders, Lewis and Thornhill (2013) that the researcher should never forget that he
or she is asking the respondent for a gift of time and effort and the favour of a reply. To promote the rate of return of questionnaires and making sure that the questionnaires were filled by the intended respondents, the researcher personally delivered the questionnaires to Heads of Department of the sampled faculties for transmission to respondents back to the researcher. A letter of transmittal to accompany questionnaires briefly explaining the purpose of the study was attached to assure confidentiality, anonymity and thanking respondents in advance. This was done in order to motivate students to respond. After questionnaire data collection, the researcher administered interviews to tutors and students directly involved in entrepreneurship studies. These are discussed next.

3.7.2. Qualitative data generation instruments

The qualitative inquiry of the study generated data from lecturers and students that were in entrepreneurship degree programmes courses and co-curricular activities. The researcher was the main instrument of data generation. Interviews involve collection of data through direct contact between the researcher and respondents (Denzin and Lincoln 2000; Cresswell 2012). Similarly, interviews were like oral questionnaires initiated to obtain data on values, beliefs and opinions of students and lecturers.

3.7.2.1. Semi-Structured Interviews

During the qualitative inquiry the researcher used semi-structured interviews. Semi-structured interviews are pre-planned while unstructured interviews are not pre-planned (Creswell, 2012). Use of semi-structured interviews provided the researcher with a desirable combination of objectivity and depth that permitted generation of valuable data that could be obtained by any
other method. The interview guide had questions that covered the five research questions on describing implementation and competence development strategies and to assess curriculum integration and culture promotion strategies. However, the intensity of the questions depended on the quantitative and qualitative nature of the research question. Two separate guides were made, one for lecturers and the other for students. However, they had the same coverage of the research questions. Coverage of all research questions ensured that the qualitative inquiry obtained entrepreneurship lecturers and students’ views on each research question. This coverage was designed in such a way that each research question was expanded into a separate section of the guide. The guide had broad open ended questions that allowed interviewees latitude to develop their own answers. This also enabled the researcher to interpret their language and meanings thereby facilitating faster and easier analysis of responses.

During the interviews, the researcher visited chairpersons or heads of departments that housed entrepreneurship degree programmes and courses where he was guided to where the students and lecturers were. For students, there were three cases, namely, students doing entrepreneurship courses, degree programmes and entrepreneurship extra curricula activities. Strategies for putting up purposive samples of students varied from university to university and from department to department. In some cases, the researcher was accompanied to learning venues by guides and he was asked to introduce himself to all students. Here the researcher selected five students who either volunteered or were selected by their peers or lecturers. In some cases, the researcher was directed to students on off lesson periods using lists of names supplied by lecturers. In other cases, the researcher was only supplied with time tables and room venues to locate students by himself.
After sampling, the researcher was assisted by the students to identify interview venues that had no disruptions. The researcher interviewed the students one by one. Before the interview, the researcher explained the purpose of the interview and that the interview was going to take 15 to 20 minutes per student. The researcher explained the nature of the interview and allowed each student to clarify doubts. The researcher also sought consent for the students on the interview itself and use of the audiotape. During the interview the researcher asked one question at a time and allowed the student to give a complete answer before moving to the next question. Probes were used to get more in-depth answers using questions such as ‘can you elaborate; can you give examples?’ In doing so, the researcher elucidated interviewees’ language and interpretations. The researcher recorded interview sessions by writing answers on the interview guides. Audio recording was used where consent was granted. In these cases, the student was asked to complete a form (Attached appendix). The researcher occasionally verified the tape recorder to see if it was working. The researcher was as neutral as possible controlled by the interview guide. After the interview; the researcher asked the student if there were any further issues before providing the student with contact details arrangements for further interviews. At the end of each session, the researcher checked the recording and wrote additional notes on observations made.

The same interview procedures were used on lecturers except that the researcher visited lecturers in their offices. The researcher introduced himself and explained the nature and purpose of the study. Sessions with lectures took an average of 20 to 30 minutes. After each interview session, the researcher made arrangements for follow up interviews.
This qualitative inquiry enabled the researcher to generate meaning from interpretations of by lecturers and students in entrepreneurship degree programmes and courses. This enabled the researcher to interact with subjects involved in curriculum implementation generating data on real experiences encountered in entrepreneurship degree programmes. This integration enabled the researcher to get insight into the teaching and learning experiences behind entrepreneurship degree programmes and courses. These interviews provided access to interact with the subjects. This made it possible to describe and assess their interpretations of knowledge, values, and preferences, attitudes and beliefs about the underlying facilitating variables.

Interviews had strengths in generating in-depth qualitative data (Merterns, 2010). Adaptability and human interaction permitted the researcher freedom to probe interviewees and follow-up leads to elaborate on original responses (Cresswell, 2012). Interviews unearthed personal views and informed meanings on why certain patterns occurred in the implementation of entrepreneurship curricula from the perspective of tutors and students engaged in it (Creswell, 2012). Interviews allowed tutors and students to say what they thought about their programmes with spontaneity. Interviews provided an opportunity for the researcher to explain the purpose of the study more convincingly than a covering statement in a questionnaire. Interviews also allowed the researcher to clarify ambiguous answers, misunderstandings and to follow up on issues. The researcher was able to maintain control over the sequence of questions and to clarify misunderstandings. In cases where consent to use a tape recorder was obtained, the interviewer had an opportunity to concentrate on listening, probing and responding to interviewees. The use of a tape recorder promoted flow of the interview as the researcher did not have to write down responses to one question before moving on to the next. Note taking could have increased the
risk of interviewer bias because the interviewer was likely to make notes of the responses which made immediate sense.

However, interviews had their share of shortfalls. They were costly as compared to questionnaires. To reduce this cost, the researcher used small purposive samples that facilitated selection of information rich tutors and students from entrepreneurship degree programmes and courses using information from peers, lecturers and programme records (Creswell, 2012). Interviews allowed for subjectivity and possible participant bias emanating from eagerness to please the interviewer. To reduce these response effects, the researcher encouraged discussion and critical thinking in order to promote freedom of expression of respondents. However, as pointed out by Creswell, (2012), interviews lack the anonymity provided by the questionnaire. Anonymity is important because the respondents don’t feel threatened especially by questions that in their view are sensitive. The researcher attempted to reduce the effects of these weakness by assuring participants before and after the interviews that their names were not taken and the interview guides were coded in letters and numbers for purposes of data analysis only not for identification of participants.

The researcher experienced a number of challenges. The researcher sometimes delayed starting the interviews as the heads of departments and chairpersons had to attend their core businesses first before attending to the researcher. Sometime lecturers scheduled interviews that they fail to fulfil due to meetings or failure to come to the campus. Some lecturers came late and then rescheduled the interviews times resulting in the revision of the interviewers’ schedule. Some lecturers were less cooperative giving reasons of pressure of work schedules. However, the
The researcher maintained a cordial and positive attitude and built good rapport with all lecturers. The researcher gave daily feedback to heads of departments and chairpersons. This improved the researcher’s relations with the university staff. On students, the researcher faced challenges in locating students particularly where no aids were provided. Majority of the students were reluctant to be interviewed due to lack of time. Some asked for benefits in the form of refreshments in return of their participation. The researcher cultured a peer mentality that made him accepted by the students a colleague.

3.7.2.2. Document Reviews

Document reviews was another major instrument in the qualitative inquiry. Data from source documents provided evidence of activities that had occurred in the past and also supported data from questionnaires and interviews. Document reviewing was a method of data collection from all types of written communication that shaded light on elements that facilitate implementation of entrepreneurship curriculum (Creswell, 2012). In line with Saunders, Lewis and Thornhill (2013), document reviews helped the researcher to examine all types of written material that could shed light on implementation of entrepreneurship curricula in universities. Written data sources included published and unpublished documents, reports and other documents that were connected to entrepreneurship. On one hand, primary sources provided unpublished data that the researcher gathered directly from participants, minutes of faculty meetings, reports and correspondence. On the other hand, secondary sources provided materials such as research reports and websites data published journal articles and books. The researcher also analysed strategic plans, programme/course outlines and other documents related to implementation of entrepreneurship education.
Document reviewing, complemented interviews and questionnaires, thereby helping the researcher to find answers to questions interviews and questionnaires could not address. Document reviews also enlightened the researcher on grey areas that could neither be explained by data from questionnaires and interviews. Document reviewing, therefore, presented the researcher with the opportunity to identify issues that could be triangulated and verified with the respondents through interviews hence minimised the risk for the researcher to impose personal inferential interpretation on what was found in the documents. Another advantage of documentary reviewing was that the documents that were reviewed were an unobtrusive and none-reactive way of collecting data on past trends and therefore yielded large quantities of data that reflected values and beliefs of university communities in their natural settings. The researcher, therefore, systematically accessed relevant information from documents to answer questions left open by questionnaires and interviews. Documents enabled the researcher to systematically glean data without participants having to consciously or unconsciously influence leaving out of crucial information (Saunders, Lewis and Thornhill, 2013).

However, some shortfalls were noted. For example, there was potential for the researcher to be influenced by social context leading to biased understanding of documents. The researcher tried as much as possible to copy documents so as to analyse them later. The researcher was also influenced by biases of wanting to select pre-conceived documents found in other institutions. This was mitigated by asking interviewees to suggest documents that they thought could be of use. Authors of documents tend to record or leave out information informed by the social, political and economic environment of which they are part (Creswell, 2002). The researcher,
therefore, took cognisance of university regulations that guided the production of documents. Some critical documents were difficult to obtain. As pointed out by Creswell, (2002), documents perceived as sensitive or controlled are difficult to access. Only documents that contained data perceived lecturers to portray positive institutional image were availed. The researcher was, therefore, aware of such data and that such data could not covey meanings and were likely to produce skewed results. In undertaking documentary analysis, the researcher took note of the fact that documents were simply neutral creations from the past but took due consideration of the process and social context of their construction. The researcher, therefore, took cognisance of the fact that documents were historically amenable to manipulation and selective influence (Saunders, Lewis and Thornhill, 2013). The researcher was also alert and avoided accepting documents at face value in line with Creswell’s (2012) observations that researchers must differentiate between genuine and spurious documents so as to guarantee authenticity and credibility of data. The researcher therefore decided which documents to use.

3.8. Data Presentation, Analysis, Interpretation and Discussion Procedures

As required by the research paradigm, data presentation and analysis followed the dictates of both qualitative and quantitative data presentation and analysis procedures. In this section, data presentation and analysis was a systematic process of searching and arranging data from questionnaires, interviews and source documents. Quantitative data was presented first using descriptive statistics. This was followed by qualitative data using thematic analysis.

3.8.1. Quantitative Data Analysis Procedures

From the quantitative inquiry, questionnaire data was presented and analysed using descriptive statistics. Data from this quantitative inquiry were so large that an SPSS version 16.0 was used.
All questionnaire responses from lecturers and students were coded in variables and fed into the SPSS system. Each research question became an underlying variable namely, strategy formulation, integration, culture promotion and competence development. The variables had smaller variables that represented each question on the questionnaire. The researcher used data from each underlying variable to answer each corresponding research objective. The researcher coded the smaller variables and presented the data on frequency tables showing names of variables, frequencies and percentages. Data on the tables depicted frequencies and percentages of respondents that described and assessed how the underlying variables influenced implementation. The SPSS software produced frequency tables and figures that displayed data in forms most appropriate to the type of data analysis required. These tables and figures, with frequencies and percentages had the advantage that they, at a glance, articulated a bird’s eye view of the shape of the distribution on each variable forming the basis for further analysis (Saunders, Lewis and Thornhill, 2013). Open ended questions in questionnaires required that respondents make additional comments. The researcher coded the comments and put them into categories. Each category was then coded according to the type of comments it carried. The researcher fed the coded data into the SPSS programme version 16.0 together with the frequencies of respondents who gave the comments. The results were then presented in frequency tables that show the categories, frequencies had percentages. This approach had strengths because major trends emerging from open ended questionnaire questions were identified and quantified.

The mean was also applied to analyse centrality in the distribution of students and lecturers. This was particularly important on the analysis of bio data. The mean factored in all the data values on
ages, and gender in the calculations. As pointed out by Denzin and Lincoln (2000), the mean is an unbiased statistical measure of quantitative data because the sum of the differences between each data point and the mean always equal to zero (‘O’Leary, 2014). The mean was the point at which the sum of squared deviations in any set of data was at a minimum and was therefore important for estimating variances in the data. However, the mean was not used in isolation as it was vulnerable to distortion by outliers. According to (‘O’Leary, 2014), the standard deviation is a measure that assesses the extent to which scores in the distribution on average deviate from the mean. The standard deviation was useful because it was stable and guaranteed that if repeated samples were drawn from the same population they would have similar variations. The mean and the standard deviation taken together provided good descriptions respondents’ bio-data distributions.

3.8.2. Qualitative Data Analysis procedures

For the qualitative inquiry, data from interviews and document reviews were presented and analysed using thematic analysis. According to Saunders, Lewis and Thornhill (2013), thematic analysis is a progression where the researcher analyses data transcriptions to identify themes within the data. In this thesis, the process went beyond amassing expressions and words from lecturers and students’ responses to conveying embedded meanings within the data. This approach was dedicated to the disclosure of subjects’ experiences and expectations on the curriculum in entrepreneurship degree programmes. Thematic analysis conformed to the dictates of interpretive paradigm where analysis of lecturers and students’ perceptions and experiences in the teaching and learning of entrepreneurship used data that came out of sentiments expressed free from the control of closed questions. This form of data analysis led to organisation of
subjects’ free responses into rich descriptions of data in themes. According to Creswell (2012), themes are phrases or sentences that identify what the data means. Themes consist of ideas and descriptions. Themes, therefore, represented data meanings that answered each research question. The themes therefore became categories for analysis supported by subthemes and examples.

At first, the themes were generally all encompassing, covering everything that the subjects said. For example, where the lectures expounded how entrepreneurship studies were managed in their programmes, the researcher did not only select underlying issues, instead he considered everything said in order to develop a comprehensive picture of data from each research question. For example, on the question about implementation strategies used in degree programmes, this consideration was done in order to develop themes that covered all strategies pronounced by the subjects. The following section discusses the thematic analysis phases that the researcher followed up to data presentation.

Firstly, the researcher observed that data from interviews was unstructured as some came from notes while some came from audio recordings. Data from audio recordings were transcribed verbatim focusing on the content pertaining to the research. The researcher then familiarised himself with the data through reading and re reading the data. The researcher spent a lot of time reading all the transcriptions and other textual materials until he was familiar with the data. For example, on a question where lecturers pronounced competence development strategies that they used in their programme to support students, a lot of data was generated but reflected varied strategies and approaches. Some of it emerged from the lecturers’ additional comments, probes
and member checks. The researcher considered all of the data and took a lot of time reading and re-reading the data before he was engrossed in it.

The next stage was coding. Coding involved reviewing data line by line, identifying important phrases and isolating emergent patterns in the data (Creswell, 2012). For example, where lecturers clarified strengths and weaknesses of integration and culture promotion activities in their programmes, various terminologies were developed. However, the researcher went line by line identifying commonalities, differences and consistencies. The researcher generated initial codes by documenting patterns that emerged from the data. The researcher then classified key patterns in the subjects’ views by attaching them to codes. New codes were added as additional patterns emerged from the data. For example, in some cases, new patterns emerged where the lecturers gave additional comments. At first, coding was made into multiple open codes that were later on collapsed into fewer more focused codes that were further merged into conceptual codes.

The next stage involved searching for themes. Here, the researcher examined the codes and combined coded data with proposed themes. Relationships between codes and themes and between different levels of existing themes were formulated. Next was defining and naming each theme. This involved developing a detailed breakdown of each theme, checking out its scope and how each theme related to the entire data. Where entrepreneurship students described activities that were taking place in their programmes to integrate entrepreneurship curriculum into other disciplines, a lot of themes arose that gave a complex weave of strategies viewed by students as
positive and negative. The researcher broke each theme into sub themes determining further depth.

The researcher redefined the themes as they developed. This involved examination of existing themes and reworking them against the data set to determine that they tell definite story of data. The researcher reviewed coded data extracts to identify if themes formed coherent patterns. The researcher established connections between overlapping themes and found new patterns and issues in the data.

Next the researcher refined the existing themes. The researcher assessed whether the themes represented the meaning in the data. This was done in order in order to present an accurate illustration of participants’ experiences. It also involved reading and re-reading the data to determine if current themes related back to the data. For example, the question of what competencies students acquired from their degree programmes generated a galaxy of competencies. However, the researcher had to check which competencies overlapped and which aspects of data were to be captured and developed sub themes and extract examples

Next, the researcher did data complication. This was a process of going beyond the data and asking questions about the data in each theme (Guba and Lincoln, 1995). The complication of data was done to expand the data and create new understandings. Data was reconceptualised, giving it a new context to answer the research questions. The researcher ensured that data was not lost in the process. The researcher decided which themes made meaningful contributions to understanding what was going on in the data. This was particularly important with themes that
were developed from additional comments. Re-conceptualisation was an ongoing process that involved going back and forth the whole process of thematic analysis. It also made the researcher conduct member checking to check if the descriptions were accurate before data presentation.

At data presentation, the researcher first decided which themes made meaningful contributions in answering research questions. Data presentations were done in the form of thick descriptions themes. Subthemes and extracts from each data set were used to anchor each theme and showing how it was relevant to the data sets was used. Thematic analysis was ideal because it was a flexible method of data analysis. It complimented with the quantitative data analysis.
3.9. Linkages among Research Objectives, Questions and Methods of Analysis

Table 3.2

Linkages among Research Objectives, Questions and Methods of Analysis

<table>
<thead>
<tr>
<th>Objectives, research questions and objectives addressed</th>
<th>Type(s) of analysis</th>
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</table>
| Strategies that universities in Zimbabwe use to facilitate implementation of entrepreneurship curriculum in degree programmes. | Objective 1

<table>
<thead>
<tr>
<th>Question 1</th>
<th>Descriptive Analysis Thematic Analysis</th>
</tr>
</thead>
</table>
| Extent to which curriculum integration strategies in universities in Zimbabwe facilitate implementation of entrepreneurship curriculum in degree programmes. | Objective 2

<table>
<thead>
<tr>
<th>Question 2</th>
<th>Descriptive Analysis Thematic Analysis</th>
</tr>
</thead>
</table>
| Extent to which universities in Zimbabwe promote entrepreneurship culture to facilitate implementation of entrepreneurship curriculum in degree programmes. | Objective 3

<table>
<thead>
<tr>
<th>Question 3</th>
<th>Descriptive Analysis Thematic Analysis</th>
</tr>
</thead>
</table>
| Analysis of competence development strategies that universities in Zimbabwe use to support students to search and create entrepreneurship opportunities. | Objective 4

<table>
<thead>
<tr>
<th>Question 4</th>
<th>Descriptive Analysis Thematic Analysis</th>
</tr>
</thead>
</table>
| Development of a model that can be used to incorporate entrepreneurship curriculum into all degree programmes in Zimbabwe. | Question 5

<table>
<thead>
<tr>
<th>Objective 5</th>
<th>Descriptive Analysis Thematic Analysis</th>
</tr>
</thead>
</table>

Source: Author (2018)

Table 3.2 shows linkages among research objectives, questions and methods of analysis. The specifications depicted by the table grid helped to confirm that proper data analysis procedures were used to address the research problem. The next section discusses validity and trustworthiness of the study in the context of mixed methods research.
3.10. Validity, Reliability and Trustworthiness

The mixed method was applied to validating findings on each research question as required by the dictates of pragmatism. Each stage of inquiry had quantitative and qualitative checks to ensure that validity and credibility of findings was guaranteed. This mixed approach was influenced by the pragmatic epistemology where the two contrasting constructs of opportunity discovery and creation were synthesised. As illustrated next, the pragmatic epistemology proffered a two pronged process of validating quantitative findings on one hand, and of making qualitative findings credible on the other hand (Alvarez and Barney, 2007). The process required quantitative and qualitative data checks to determine if constructs of opportunity discovery and creation were appropriately measured on each research question. This was in line with the evolutionary theory that claims that the discovery of initial venture opportunities is done before recreation, development and redefining of constructs within social contexts and characterised by uncertainty. In this vein therefore, the thesis required both quantitative and qualitative approaches to validating findings on each research question. On each research question, data collection, presentation, interpretation and analysis were driven by the dictates of this mixed approach that involved the application of quantitative and qualitative measures. For the quantitative inquiry, the researcher used measures of validity and reliability while for the qualitative inquiry the researcher applied measures of trustworthiness. These are discussed next starting with validity checks.

3.10.1. Validity

Validity was a quantitative measure that checked the extent to which instruments actually measured constructs they were supposed to measure. This enabled the determination of whether the thesis’s findings were accurate from the standpoint of the researcher, participants and readers
(Creswell, 2012). Validity therefore determined the level of accountability and legitimacy of data collection, analysis and interpretation. The next section discusses external and internal validity checks respectively. External validity checks determined the extent to which findings could be generalised (Punch, 2012). External validity checks were important because findings from random samples needed to be generalised to the wider population. It was, therefore, important to check accuracy of the extent of generalisations to the population. External validity checks applied were objectivity, reliability and triangulation.

The issue of objectivity was central as it had a bearing on validity of the thesis’s findings. From the quantitative perspective, objectivism was critical as it assured that data on entrepreneurship curriculum and the underlying variables that facilitated its implementation were collected and analysed independent of the researcher and the research subjects. This position differed from the qualitative perspective where entrepreneurship curriculum and the underlying variables were taken as creations from perceptions and actions of the researcher, students and lecturers. The thesis, therefore, followed the pragmatic perspective where objectivism was complemented by subjectivism.

From a pure quantitative perspective, the researcher was biased particularly in the choice of the design, instrumentation and data analysis procedures. However, this was accepted as the researcher controlled his biases by following the dictates of pragmatism. According to William (2011), objectivity resides in the researcher as he has the responsibility of putting aside his biases and beliefs. In this case the quantitative inquiry was neutralised by the qualitative inquiry in making the researcher understand entrepreneurship curriculum and implementation variables as
existing outside and independent of the researcher, lecturers and student’s minds but impossible to be studied without the help of qualitative methods (Taylor and Madina, 2013).

The qualitative inquiry supported the quantitative inquiry as precise objectivity could not achieve credible results due to the social contexts that housed degree programmes and courses. Objectivity was, therefore, pursued through the quantitative inquiry while allowing subjectivity to influence researcher’s values in choosing these quantitative tools. Objectivity was also enhanced by critical input from experts who supervised the thesis. The supervisors had expertise in both quantitative and qualitative research methods. This pragmatic approach was in line with Robson (2013), who claims that the best way to achieve validity in mixed methods research is to do it within the context of a broader community of truth seekers who criticise a research inquiry up to its completion. In this regard, objective ideas survived by evolving through the process where thesis supervisors supervised crafting of the research design, instruments and data collection procedures (Saunders, Lewis and Thornhill, 2013).

The researcher also applied internal validity checks to minimise the effect of extraneous variables in the research findings. As pointed out by Saunders, Lewis and Thornhill (2013), internal validity checks make research findings valid by minimising influence of factors other than those thought to have influenced the results. Four types of internal validity checks namely face, content, and criterion and construct validity were considered (Babbie, 2010). Criterion validity checks ensure accuracy of questions in instruments by comparing them to other instruments. However, this type of validity was not feasible as no study had previously been made and no universal instruments were available (Alvarez and Barney, 2007). Another type of
validity is construct validity which checks the degree to which the questionnaire and the interview guide correlates with theoretical concepts to be measured (Cresswell and Miller, 2000). This validity check was also not applicable as implementation of entrepreneurship curriculum did not have any criteria universally accepted by researchers as adequate to act as constructs (Alvarez and Barney, 2007).

However, there were potential threats to face validity that emanated from attrition and maturation and needed to be mitigated. Attrition is a systematic error caused by unequal loss of participants from a randomized sample (Saunders, Lewis and Thornhill, 2013). Some lecturers and students withdrew from the data collection process before completing their questionnaires due to urgent calls to attend to work and study issues. This had a potential effect of introducing bias and reducing validity and reliability. The researcher provided for extra subjects in order to maintain the sample size and statistical power to compensate for the unexpected withdrawal of subjects. Face validity faced threats of maturation. According to Ogwuegbuzie and Johnson (2006), maturation changes occur due to changes that take place in the population during the course of the study.

The researcher, therefore, considered the length of data collection period and time the subjects took to answer questions in the light of how it affected the subjects. For instance, questionnaire data collection was done once to avoid repetitions and change of perceptions. The length of questionnaires and interview guides was also adjusted during pilot testing to minimise the effects of boredom and in attention to detail. Data collection period only lasted for only one semester to avoid loss of students through change of courses or completion of programmes. The researcher
considered that providing too much time for data collection could influence some lectures to change perceptions towards issues in the questions as results of researching the issues. This section has discussed validity checks as they pertained to the quantitative inquiry. The next section turns trustworthiness in the context of the qualitative inquiry.

3.10.2. Reliability

Reliability was another quantitative measure applied to validate the research process. According to Saunders, Lewis and Thornhill (2013), reliability refers to the ability of a research process to provide results that do not vary according to occasion and persons undertaking the research. Reliability is also the extent to which a research instrument is repeatable and consistent (Babbie, 2010). It ensures that research results are not affected by a research instrument that provides different results each time it is used (Creswell, 2002). Consideration of reliability therefore guaranteed stability, accuracy and precision of measurement in the research process. Reliability of questionnaires, interview guides and source documents was a critical element as it determined consistence of measurement in the whole research process. The study was not experimental to warrant calculation of reliability indices such as test-retest, parallel form and internal consistency reliability. However, pilot testing of instruments was done to ensure reliability of the research process. During pilot testing, the questionnaire and interview guide were administered to the same population by different people and their results compared. This ensured that the instruments produced data that could be generalised without doubting instrumentation reliability.
3.10.3. Trustworthiness

For the qualitative inquiry, trustworthiness was applied to enhance credibility of the study’s findings. Steps were taken to ensure that the qualitative inquiry at least matched elements of validity in the quantitative enquiry to achieve credibility. The thesis therefore adopted Guba’s constructs of credibility namely transferability, dependability and conformability in order to complement constructs of validity in the quantitative inquiry (Guba, 1991). The thesis also applied bracketing and member checking to increase credibility.

Transferability complimented validity in quantitative inquiry (Guba, 1991; Lincoln, 1995). While the quantitative inquiry was concerned with applying results to wider population; findings from the qualitative inquiry were specific to cases of lecturers and students in entrepreneurship degree programmes. Measures were, therefore, put in place to ensure that findings and conclusions from each case could be generalised. The thesis adopted the view that each case was unique but acted as an example within the group of entrepreneurship degree programmes and courses and as a result, transferability of the qualitative findings was made applicable. However, the researcher noted the influence of contextual factors. To increase transferability, the researcher made thick descriptions and discussion of findings to facilitate comparisons of issues emerging from each case with research findings from other cases.

Dependability was another element of trustworthiness that was applied to increase reliability in the qualitative inquiry (Guba 1991; Lincoln 1995). While the quantitative inquiry employed techniques that assured that data collection could produce similar results if it was repeated in the same context, the qualitative inquiry complimented this by applying dependability. This was
achieved through use overlapping methods. For instance, students and lecturers who participated in interviews also participated in the questionnaire survey. In addition, the questionnaires had open ended questions that allowed free expression of views on issues also covered by interview guides. Data was then presented clearly and discussions of findings done in detail to generate a better understanding of subjects’ views.

The researcher applied conformability. As pointed out by Guba (1991) and Lincoln (1995), conformability was applied as a qualitative measure to complement objectivity in the quantitative inquiry. While the quantitative inquiry promoted objectivity by using instruments that were not influenced by researcher bias, it was difficult to achieve real objectivity since the quantitative instruments were designed by the researcher and therefore value laden. Conformability was therefore applied as a tool in the qualitative inquiry to address issues of objectivity. Data was analysed and presented in a way that ensured that data reflected views of participants not preference of the researcher. In-depth descriptions of methods were done and recognition of shortcomings in the methods was acknowledged.

The researcher employed bracketing as a methodological strategy the researcher deliberately put aside his personal beliefs about the nature of entrepreneurship curriculum and the underlying variables that facilitated its implementation. As claimed by Saunders, Lewis and Thornhill (2013), bracketing is holding in the researchers’ repertoires of knowledge, beliefs, values and experiences in order to accurately describe subjects’ experiences. In this case the researcher put aside what he already knew about the teaching of entrepreneurship in degree programmes and employed practical strategies to apply bracketing in the research process. The concept of
bracketing was applied by the researcher throughout the research process and was not restricted to data collection and analysis phases only. The researcher used reflexivity as a key thinking activity where he honestly examined his values and interests that could impinge the research process. This introspection helped the researcher to identify areas of potential bias and minimise his influence by bracketing them. For example, during semi-structured interviews the researcher did bracketing by probing areas that arose from the subjects’ interests and asked focusing but not leading probing questions. The researcher listened carefully to the subjects and allowed them to express themselves freely introducing issues they thought the researcher had not covered. During data analysis, the researcher also examined his beliefs and values that could distort data and affect credibility of findings. The researcher tried to suspend his predispositions and introduced measures to enhance trustworthiness in data analysis. For instance, the researcher made consecutive visits to the interviewed subjects to check if their experiences had correctly been captured. This procedure enabled the researcher to ascertain if answers to questions needed to be rectified and to ensure that data had not been misinterpreted.

The researcher also increased credibility of the research by doing member checking. This was a process where data, analytic categories and conclusions were tested with members of the groups from which data was obtained. This was done formally and informally as opportunities for member checks emerged during data collection and generation (Denzin and Lincoln 2000). Member checking provided the researcher with opportunities to describe and assess what the subjects intended to. Member checking also gave participants opportunities to correct errors and to challenge what they perceived as wrong interpretations. Member checking also provided opportunities for the subjects to volunteer additional data. It gave the researcher opportunity to
confirm some aspects of data, summarise preliminary findings, and to put responses into clear perspectives. However, the member was not applicable with some students and lecturers as they could not be accessed for the second time. Some subjects viewed member checking as confusion than a confirmation process. Some members changed their minds on certain issues while some argued that there was no need to recheck results. However, majority accepted member checking and viewed it as a technique for establishing validity of the data.

3.10.4. Triangulation

Another measure applied to validate findings was triangulation. According to Denzin and Lincoln (2005), theory, methodological and data triangulation are used to deepen researcher’s understanding of data and to maximise confidence in the research findings. Triangulation was an important measure because in this mixed methods study, multiple theories, methods and data sources were combined to address the research problem from different angles.

Theory triangulation was applied through the use of multiple perspectives to interpret a single set of data (Guba, 1991; Cresswell, 2012; ‘O’ Leary, 2014). For example, the opportunity and discovery theories provided different perspectives in interpreting data from lecturers on curriculum goal setting and design of teaching methods. The two theories gave different perspectives of interpreting data from students on learning activities that students experienced in searching, discovering and creating opportunities. Multiple theory triangulation on each research objective also ensured validity in describing and assessing variables of strategy formulation, curriculum integration, culture promotion and competence development strategies.
The thesis also applied methodological triangulation by using qualitative and quantitative methods in collecting data on the same issues. As pointed out by Cresswell (2012), methodological triangulation involved use of two or more research methods in the study at the level of data collection. The use of multiple methods, such as surveying, and multiples case study methods on each research question enhanced validity of findings as conclusions drawn from each of the methods were stronger than those drawn from one method alone. If conclusions from the methods were the same, then reliability was established. This gave confidence that the meaning of data had consistency. These views are in line with Saunders, Lewis and Thornhill (2013) who place emphasis on the need to find out where quantitative and qualitative results confirm each other. However, methodological triangulation required more time as it involved combining multiple methods of gathering data from questionnaires, interviews and document reviews on each research question. Data triangulation involved use of multiple sources of data namely lecturers, students and source documents to obtain different views on same issues. These multiple sources helped to validate findings by enunciating different views on each research problem. Using different sources of data increased validity by cross verifying the same data. This strengthened the research findings. Data triangulation was applied through the use of both qualitative and quantitative data from lecturers and students to seek answers on similar issues. Different data forms from different sources served as a tool for comparing and validating research findings on each research question. Another form of data triangulation involved the collection of data from more than one category of students and lectures. In this case students from all universities and degree programmes were represented. The use of students and lecturers from different universities, degree programmes and entrepreneurship settings was a very important data triangulation technique. It ensured that if findings were the same from these under varying
conditions then validity was established. Data triangulation was also applied through asking similar questions to lecturers and students to address the same research questions. Similar responses pointed to the same conclusions while incongruities suggested lack of reliability. Such issues were then corroborated by checking data from all instruments. As pointed out by ‘O’ Leary (2014) the use of multiple data sources and instruments to cross check and validate findings increases the depth and quality of research results.

3.11. Ethical and Legal Issues

As advised by Saunders, Lewis and Thornhill (2013), the researcher ought to give a great deal of attention to research ethics. Ethical issues played a very important role in this thesis as they contributed to validity and integrity of the thesis. Principally, the researcher endorses the basic ethical principles of doing good ‘beneficence’ and doing no harm ‘malfeasance’. In this study beneficence was central as it guided the researcher throughout the research process. According to Singer (2012), beneficence involves assessing both intended benefits of the research and the risks that participants are exposed to during the research process. The researcher, therefore, assessed both intended benefits of the research and the risks that the participating lecturers and students were exposed to. The researcher was guided by ethics of informing and maximising possible benefits of the research while also informing and minimising possible harm to each lecturer and student who participated in the research. Throughout the research process, the researcher strove to convince participants that the research benefited all students and lecturers as it was going to improve curriculum design and implementation in all degree programmes although the participants had to endure some risks such as loss of their valuable time participating in interviews and questionnaire completion. In actual practice, the researcher prioritised protecting
participants’ rights, privacy and confidentiality by making their identities anonymous and making data not to link to individual degree programmes and institutions. At every point in the research process, the researcher assessed and took account of all potential risks and put first the welfare and interest of each student and lecturer. The major challenge that the researcher faced was that students expected to get some remuneration in exchange of their participation and loss of time. Lecturers, on the other hand, looked forward to personal academic acknowledgement as benefits from the data they provided.

The researcher was guided by ethics of malfeasance. These ethics guided the researcher to follow the dictates of research principles in order to produce results that are credible. The researcher desisted from manipulating research methods, instruments and data analysis processes. This could have led to a falsification of results to suit researcher’s personal interests. Ethics of malfeasance also guided the researcher to desist from deliberately changing or omitting certain data. This could have led to results that do not accurately represent the data. Ethics of malfeasance also guided the researcher to avoided as much as possible plagiarising other people’s ideas. Appropriation of other peoples’ ideas without acknowledging could have led to violation of academic ethics.

The thesis’ approach to ethics was guided by the research paradigm, research design, research methodology, sampling techniques and data analysis techniques (Cohen, Manion and Morrison 2006). Ethical implications were therefore considered during the initial crafting of the thesis. For instance, the quantitative nature of the research meant that it was structured and planned beforehand. For example, ethical issues were considered during instrument construction enabling
the researcher to anticipate ethical challenges ahead. From an ethical perspective, this made it easier to seek informed consent from the subjects as those that required seeing the interview guide before the interview took place could do so (See Appendix, 7).

The following steps were followed in order to ethically gain physical access into institutions. Permission to carry out the research in universities was secured from the Ministry of Higher Education, Science and Technology. The request outlined the purpose of the research, data sources and methods of data collection to be used. After permission was granted, letters were sent to all sampled universities accompanied by a copy of clearance letter from the Ministry. Letters to universities assured universities of issues of confidentiality, right to anonymity and privacy. When permission was granted by responsible institutions, letters were sent to sampled departments in advance inviting their participation. These letters explained how the programmes were selected and the methods of data collection to be used. Accompanying the letter were outlines of research objectives, design and proposed data collection methods to be used. Justification of the research was also provided highlighting the research’s relevance to university education.

As suggested by Saunders, Lewis and Thornhill (2013), the researcher allowed sufficient time between applications for permission and replies as it took an average of three months before all sampled universities replied. As was anticipated at first by the researcher, observations, gaining access was problematic with certain institutions. There were delays by some institutions probably due to bureaucracy. Some individuals in private universities saw the research as sensitive, requiring further guarantees. The researcher was introduced by registrars to gate keepers who became local contact persons. The gate keepers varied from university to university.
At some institutions, there were deans of student services, while at some there were deans for commerce faculties and for research and scholarships. These gate keepers were very effective as they made follow ups and gave the researcher feedbacks.

When permission was granted by institutions, the researcher made arrangements with faculties and departments to gain access to sampled programmes and eventually to sampled lecturers and students. Since students were under the responsibility of university authorities, particular care was taken when seeking access to students. Permission was sought whenever students had to complete questionnaires or attend interviews. Some of the challenges were that some lecturers and students had busy schedules did not have sufficient time to participate at the time the researcher had scheduled. In such cases the researcher had to reschedule the appointments for data collection.

Informed consent, confidentiality and rights of anonymity were very critical in this research. These issues emerged throughout the methodology stage from planning to data collection, analysis, report writing and dissemination of findings. According to Creswell (2012), there is need for respondents to know the exact terms of these ethical issues. Discussion of informed consent, confidentiality, anonymity and academic standards is therefore next.

Informed consent was a voluntary agreement to participate in the research and was therefore a critical ethical and legal consideration. As proposed by Cohen, Manion and Morrison (2006) there were needed to obtain consent and cooperation from all subjects before their participation in the study. Cohen, Manion and Morrison (2006) further proclaim that informed consent is an important procedure that informs the subjects of their right to confidentiality and to withdraw
from the study at any time without consequences. The researcher, therefore, did not induce force or deceit upon any lecturer or student to participate in the study. Instead, he verbally informed each subject about rights, purpose of the study, procedures to be followed, potential risks and benefits from participating before giving each of the participants an informed consent form. Each respondent was given an informed consent form before data collection started. The consent form provided information on the purpose of the research, procedures involved in research, alternatives to participate, risks and discomforts, length of time the subjects were required to participate. All respondents were, therefore, made fully aware of the value of their contributions to the study and were left to choose whether to participate, not to participate.

The researcher respected confidentiality and informed respondents that data was to be treated with confidence. Confidentiality involves a clear understanding between the researcher and participants concerning the use of data and linking specific individuals to specific responses. Confidentiality was emphasised by using secret codes for interview transcripts and questionnaires to conceal the names of respondents and institutions. The subjects were informed that codes such as 1, 2, 3 and a, b, c were going to be used for the purposes of summarising data not for identifying identities of the subjects. This was also included in the consent form (Appendix, 7). Explicit statements of confidentiality were also presented on the face of questionnaire and interview schedule to guarantee respondents and participants of confidentiality. As suggested by Singer (2012) all respondents and participants were informed that data was to be treated with confidence and that only the researcher had access to them. Respondents were also informed that steps were taken to ensure that no information was to be published other than that for the purposes of the thesis. Anonymity was observed by assuring respondents that their names and institutions were not going to be revealed. Respondents were
informed that the research involved sampling techniques that generalised data. This, therefore, guaranteed anonymity of universities, lecturers and students. They were assured that identity of universities was not going to be revealed in the final report.

Research findings shall be disseminated to all universities in Zimbabwe. Reporting of results shall be objective while protecting institutions ‘confidentiality. The researcher took note that while dissemination of results is an important obligation, he shall also consider the effects of unfavourable findings. Within the bounds of confidentiality, dissemination of results shall avail study methods, design, sampling methods, sizes, instruments and data description in a way that enable further researchers to do replication. Dissemination shall abide to the laws that govern disclosure of survey results and copies shall be availed to all universities. Participants were, therefore, assured that research findings were to be reported in a complete and honest manner without misrepresentation and misleading readers. Fabrication of data to support conclusions was to be avoided as it was unethical. As suggested by Saunders, Lewis and Thornhill (2013) there was no manipulation of the research process, changing or omitting results. Research results were, therefore, accurately represented by the data collected. The chapter summary is next.

3.12. Chapter Summary

This chapter presented the thesis’ paradigm of pragmatism and discussed its ontology, epistemology, and axiology. The chapter then discussed the mixed methods research within the context of pragmatism. The chapter presented the concurrent mixed methods design and discussed its assumptions, characteristics and justification. The chapter went on to discuss the thesis’ population and sample. Sampling technics used were also presented and justified. The questionnaire, interviews and documentary reviews were then presented highlighting their
justification, shortfalls and mitigation measures. The chapter discussed the role of validity, reliability, trustworthiness, triangulation and pilot testing as validation checks and then moved on to data presentation, analysis and interpretation techniques that were both quantitative and qualitative. The chapter ended by discussing ethical and legal issues. The next chapter looks at data presentation, analysis, interpretation and discussion.
CHAPTER 4
DATA PRESENTATION, ANALYSIS, INTERPRETATION AND DISCUSSION

4.1. Introduction

The previous chapter discussed the research methodology and design. This chapter presents data presentation, analysis, discussion and interpretation. It starts with respondents’ demographic data and background information on faculties and programmes. It then presents data in themes that reflect the thesis objectives. Data from closed questions are presented using tables, bar charts with frequencies and percentages. Data from open ended questionnaire questions were analysed using SPSS version 16.0 and presented in tables. Data from interviews are presented in tables of emerging themes, subthemes and substantiating statements. Each discussion session is presented under each variable. The next section covers bio-data of students and lecturers together with distribution of faculties and programmes from which respondents were drawn.

4.2. Bio-Data and Background Information

Table 4.1

Frequency Distribution of Students and Lecturers

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>235</td>
<td>71.4</td>
<td>71.4</td>
</tr>
<tr>
<td>Lecturers</td>
<td>94</td>
<td>28.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>329</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2018).
Data in table 4.1 show the sample used for the quantitative inquiry. The sample was made up of 71% students and 29% lecturers. Both groups took part in the questionnaire survey. The sample comprised of 329 subjects. Each of the six sampled universities was made up of academic faculties (schools). All faculties in the six universities were summed up to comprise 24 faculties. From each faculty, two undergraduate degree programmes were randomly selected and overall summed made up to 47 programmes. From each programme, two lecturers and seven students were randomly selected and made up a sample of 235 students and 94 lecturers. In total, the sample had 329 subjects. These sampling procedures made the sample as representative as possible. The sample had a mean of 1.3, standard deviation of 0.5 and a standard error of skewness of 0.1. These sample statistics were very low demonstrating that the sample was a normal distribution. In addition, a standard error measurement was also used to determine the extent to which the sample mean of 1.3 could be obtained if repeated samples were drawn. This measurement was calculated by dividing the sample standard deviation by the square root of the sample mean. The standard error of 0.024 obtained was very small making chances high that if repeated samples were drawn, they would be the same. Table 4.2 presented next, shows the distribution of lecturers and students by faculties. For the qualitative inquiry, a total of 20 students and five lecturers from entrepreneurship programmes, courses and extra-curricular activities took part in interviews.
### 4.2.1. Distribution of Lecturers and Students by Faculties and Degree Programmes

Table 3.2

*Distribution of Lecturers and Students by Faculty and Degree Programme*

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Lectures</th>
<th>Students</th>
<th>Total</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business and management sciences</td>
<td>4</td>
<td>10</td>
<td>14</td>
<td>4.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Art and design</td>
<td>6</td>
<td>10</td>
<td>16</td>
<td>4.9</td>
<td>9.1</td>
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<tr>
<td>Business science management</td>
<td>4</td>
<td>10</td>
<td>14</td>
<td>4.3</td>
<td>13.4</td>
</tr>
<tr>
<td>Hospitality and tourism</td>
<td>4</td>
<td>10</td>
<td>14</td>
<td>4.3</td>
<td>17.6</td>
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<tr>
<td>Applied sciences</td>
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<td>10</td>
<td>14</td>
<td>4.3</td>
<td>21.9</td>
</tr>
<tr>
<td>Agriculture and natural sciences</td>
<td>4</td>
<td>10</td>
<td>14</td>
<td>4.3</td>
<td>26.1</td>
</tr>
<tr>
<td>Communication and Information science</td>
<td>4</td>
<td>10</td>
<td>14</td>
<td>4.3</td>
<td>30.4</td>
</tr>
<tr>
<td>Culture and heritage studies</td>
<td>4</td>
<td>10</td>
<td>14</td>
<td>4.3</td>
<td>34.7</td>
</tr>
<tr>
<td>Industrial technology</td>
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<td>10</td>
<td>14</td>
<td>4.3</td>
<td>38.9</td>
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<td>14</td>
<td>4.3</td>
<td>43.2</td>
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<tr>
<td>Built environment</td>
<td>4</td>
<td>10</td>
<td>14</td>
<td>4.3</td>
<td>47.4</td>
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<tr>
<td>Engineering and technology</td>
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<td>10</td>
<td>14</td>
<td>4.3</td>
<td>51.7</td>
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<td>Social sciences</td>
<td>8</td>
<td>13</td>
<td>21</td>
<td>6.4</td>
<td>58.1</td>
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<td>Law</td>
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<td>5</td>
<td>7</td>
<td>2.1</td>
<td>60.2</td>
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<td>Medicine</td>
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<td>5</td>
<td>7</td>
<td>2.1</td>
<td>62.3</td>
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<tr>
<td>Theology</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>2.1</td>
<td>64.4</td>
</tr>
<tr>
<td>Arts</td>
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<td>8</td>
<td>10</td>
<td>3.0</td>
<td>67.5</td>
</tr>
<tr>
<td>Industrial sciences and technology</td>
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<td>12</td>
<td>14</td>
<td>4.3</td>
<td>71.7</td>
</tr>
<tr>
<td>Information science technology</td>
<td>2</td>
<td>12</td>
<td>14</td>
<td>4.3</td>
<td>76.0</td>
</tr>
<tr>
<td>Science and technology education</td>
<td>4</td>
<td>10</td>
<td>14</td>
<td>4.3</td>
<td>80.2</td>
</tr>
<tr>
<td>Commerce</td>
<td>12</td>
<td>18</td>
<td>30</td>
<td>9.1</td>
<td>89.4</td>
</tr>
<tr>
<td>Humanities</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>2.1</td>
<td>91.5</td>
</tr>
<tr>
<td>Agricultural sciences and technology</td>
<td>4</td>
<td>10</td>
<td>14</td>
<td>4.3</td>
<td>95.7</td>
</tr>
<tr>
<td>Engineering sciences and technology</td>
<td>2</td>
<td>12</td>
<td>14</td>
<td>4.3</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Total** 94 235 329 100.0 100.0

Source: Author (2018).
Table 4.2 shows 24 faculties that represented academic disciplines. These together made up the sampled universities. All these faculties contributed research subjects to the sample. Distribution of faculties was confirmed by documents available. The distribution shows that commerce and social science disciplines had the highest number of respondents (30 and 21, respectively), while all other disciplines contributed a mean of 14 respondents. A scan of the faculties shows a wide variation in the distribution of disciplines ranging from business, natural and social sciences, engineering, science and technology, law to theology. The table in appendix one, presents the distribution of degree programmes.

There were 47 degree programmes that were randomly sampled from the 24 faculties. Each faculty had two programmes randomly drawn from it. An average seven respondents comprising of two lecturers and five students were randomly drawn from each programme (Appendix 1). There were five entrepreneurship degree programmes that were in the population of universities. These were confirmed by documents on degree programmes on offer. These were all purposively drawn for the qualitative inquiry (Appendix 2). There were 20 students and five lecturers who participated in the qualitative inquiry.
4.2.2: Distribution of Lecturers and Students by sex

Figure 4.1. Distribution Of Lecturers And Students By Sex

Source: Author (2018)

Figure 4.1 shows that the total sex distribution in the sample was 57% male and 43% female, indicating gender disparities among students and lecturers with a slight bias towards male. However, the graph shows more female than male students while on the contrary it shows more male lecturers than female. The gender distribution of lecturers presents a staffing situation in universities that is biased towards male. However, curriculum implementation strategies must be gender sensitive to ensure that many female graduates venture into entrepreneurship. Gender variation on students depicts degree programmes that enrol more female students than male. Gender distribution is critical in entrepreneurship development as women are very active in the informal employment sector. This is evidenced by practices in some universities that have developed research and development support services for gender specific projects (EU, 2012; Gibb, 2014).
4.2.3. Distribution of Students and Lecturers by Age

Figure 4.2. Distribution of Students and Lecturers by Age

Source: Author (2018)

Figure 4.2 shows that the majority of students 19% were aged 23 while 16% were aged 22 and 15% were aged 24 making a total of 50% students clustered between 21 and 25 years of age. The age range of lecturers comprised of small clusters. However, the majority of lecturers 50% had ages clustering between 45 and 50 years. These results confirm that lecturers were mature professionals who probably had witnessed and experienced the country’s historical socio economic circumstances and therefore understood its entrepreneurial needs.
4.2.4: Distribution of Lecturers by Highest Professional Qualifications

Table 4.3

*Distribution of Lecturers by Highest Professional Qualifications*

<table>
<thead>
<tr>
<th>Qualification</th>
<th>f</th>
<th>%</th>
<th>C%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Technology</td>
<td>2</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Master of Arts</td>
<td>8</td>
<td>8.5</td>
<td>10.6</td>
</tr>
<tr>
<td>Master of Science</td>
<td>49</td>
<td>52.1</td>
<td>62.8</td>
</tr>
<tr>
<td>Master of Business Administration</td>
<td>2</td>
<td>2.1</td>
<td>64.9</td>
</tr>
<tr>
<td>Master of Education</td>
<td>5</td>
<td>5.3</td>
<td>70.2</td>
</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>11</td>
<td>11.7</td>
<td>81.9</td>
</tr>
<tr>
<td>Master of Philosophy</td>
<td>3</td>
<td>3.2</td>
<td>85.1</td>
</tr>
<tr>
<td>Bachelor of Commerce/Business</td>
<td>4</td>
<td>4.3</td>
<td>89.4</td>
</tr>
<tr>
<td>Business Studies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master of Commerce</td>
<td>7</td>
<td>7.4</td>
<td>96.8</td>
</tr>
<tr>
<td>Master of Medicine</td>
<td>1</td>
<td>1.1</td>
<td>97.9</td>
</tr>
<tr>
<td>Master of Laws</td>
<td>2</td>
<td>2.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Author (2018)

Table 4.3 shows that majority of lectures 52% had MSc qualifications, followed by PhD holders 11% and small majorities of MA 9% and MCom 7% holders respectively. The largest distribution of MSc holders demonstrates bias towards science, hence universities’ potential to drive entrepreneurship development through STEM. The 9% of lecturers with PhD holders confirm universities’ crusade towards research driven entrepreneurship curriculum.
4.2.5. Distribution of Lecturers by Years of University Teaching Experience

Table 4.4

Distribution of Lecturers by Years of University Teaching Experience

<table>
<thead>
<tr>
<th>Years</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>12.8</td>
<td>13.8</td>
</tr>
<tr>
<td>5</td>
<td>12</td>
<td>12.8</td>
<td>26.6</td>
</tr>
<tr>
<td>6</td>
<td>26</td>
<td>27.7</td>
<td>54.3</td>
</tr>
<tr>
<td>7</td>
<td>15</td>
<td>16.0</td>
<td>70.2</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>7.4</td>
<td>77.7</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
<td>6.4</td>
<td>84.0</td>
</tr>
<tr>
<td>10</td>
<td>9</td>
<td>9.6</td>
<td>93.6</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>3.2</td>
<td>96.8</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>1.1</td>
<td>97.9</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>1.1</td>
<td>98.9</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>1.1</td>
<td><strong>100.0</strong></td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2018)

Table 4.4 shows distribution of 69% lecturers clustered around years of teaching experiences ranging between 4 and 7 of university teaching experience. The data were verified by records available. The largest distribution is 44% that clustered around 6 years teaching experience. There are very few lecturers with university teaching experiences in the range above 14 years. This wide variation of 69% for teaching experience between 4 and 7 years and that of 3.3% for teaching experience between 14 and 16 years could be attributed to very high turnover probably caused by the massive brain drain that universities experienced in 2008.
4.2.6. Distribution of Lecturers by Entrepreneurship Background

Table 4.5

*Frequency Distribution Of Lecturers By Entrepreneurship Background*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturers with entrepreneurship background</td>
<td>34</td>
<td>36.2</td>
<td>36.2</td>
</tr>
<tr>
<td>Lecturers with no entrepreneurship background</td>
<td>60</td>
<td>63.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2018)

Table 4.5 shows that 64% of lecturers who had no entrepreneurial background while only 36% had experience in entrepreneurship. Lecturers with entrepreneurial experience were asked to produce documentary evidence. This shows that lecturers in universities are deficient in entrepreneurship experience and therefore, fall short in motivating and guiding students into entrepreneurship.

4.2.7. Distribution of Students by Year of Study

Table 4.6

*Distribution of Students by Year of Study*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part three</td>
<td>51</td>
<td>21.7</td>
<td>21.7</td>
</tr>
<tr>
<td>Final year</td>
<td>184</td>
<td>78.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>235</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2018)
Table 4.6 shows that 78% of the students were in their final year of study while 22% were in part three. This shows that students who took part in the study were at final stages of their studies and, therefore, had adequate insights of entrepreneurship activities that had transpired during the course of their studies.

4.2.8. Distribution of Students by Business Intentions.

Table 4.7

<table>
<thead>
<tr>
<th>Distribution Of Students By Business Intentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Students with business intentions</td>
</tr>
<tr>
<td>Students with no business intentions</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: Author (2018)

Table 4.7 shows that 226 (96%) of the students had intentions to start businesses after graduation while only 9 (4%) had intentions for formal employment. This trend is in tandem with global practices that encourage university students to start their own ventures after graduation.

4.2.9. Discussion on Demographic Data.

The distribution of lecturers confirms that lecturers were mature professionals with fairly adequate teaching experience but with little experience in entrepreneurship. These results are important because university lecturers are expected to guide students in the acquisition of entrepreneurship experience. Lecturers must be experienced in interacting with markets, customers understanding problems in their communities (Urwyler, 2006). Data also confirm that
majority of students had intentions to start small businesses and therefore all degree programmes were expected to respond to these needs.

The selection of degree programmes was done in a way that ensured that the programmes were drawn from all faculties. The data was therefore collected from a broad spectrum of subjects instead of focusing only on entrepreneurship programmes. This diversity justification emanates from the thinking that across the world, entrepreneurship education is finding its way into all university programmes (Acs and Audretsch, 2013). The diversity is also in line with the thinking that universities are turning themselves into entrepreneurial entities (Wilson, 2014).

The distribution of programmes also show dominance of none business degree programmes. This composition was significant because it aligned the inquiry to the conception by Moris, Webb, Fu and Singhal (2013) that entrepreneurship teaching must not be limited to business programmes alone but must expand to none business programmes as well. The Inclusion of all degree programmes in the study was also in line with the thinking by Vaghely and Julien (2010) that all degree programmes must network and collaborate in the implementation of entrepreneurship curriculum. The distribution also shows that students and lecturers were drawn from undergraduate programmes only. This sample characteristic is significant because current practices, for example in Europe, show that strategies for implementing entrepreneurship curriculum differ according to level of programmes (EU, 2012). Hence the thesis focused on undergraduate level.
4.3. Evaluation of Curriculum Implementation Strategies

4.3.1: Lecturers’ Opinions on Teaching Strategies

Table 4.8

*Lecturers’ opinions on teaching strategies: n=94*

<table>
<thead>
<tr>
<th>Strategy</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Interdisciplinary teaching approaches that meet entrepreneurial needs of all university students</td>
<td>21</td>
<td>40</td>
<td>73</td>
<td>60</td>
</tr>
<tr>
<td>B Incentives for research and scholarship on opportunity discovery and creation</td>
<td>38</td>
<td>40</td>
<td>56</td>
<td>60</td>
</tr>
<tr>
<td>C Support for lecturers to create opportunities for starting new business ventures</td>
<td>32</td>
<td>34</td>
<td>62</td>
<td>66</td>
</tr>
<tr>
<td>D Benchmarking and assessing entrepreneurship behaviours, attributes and skills for opportunity search and creation</td>
<td>43</td>
<td>46</td>
<td>51</td>
<td>54</td>
</tr>
<tr>
<td>E Lecturers participate in strategic partnerships with commerce and industry</td>
<td>77</td>
<td>82</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>F Universities engage prominent and active entrepreneurs to participate in curriculum implementation</td>
<td>42</td>
<td>45</td>
<td>52</td>
<td>55</td>
</tr>
<tr>
<td>G Orientation and in-service of lecturers in business opportunity searching and creation</td>
<td>16</td>
<td>17</td>
<td>78</td>
<td>83</td>
</tr>
<tr>
<td>H Knowledge and technology transfer e.g. to SMEs, agrarian and small scale mining ventures</td>
<td>22</td>
<td>23</td>
<td>72</td>
<td>77</td>
</tr>
</tbody>
</table>

Source: Author (2018)

Table 4.8 shows that variables reflecting outstanding trends are A, B, C, E, G and H with frequencies ranging above 60%. The variables are analysed and interpreted next. Data on variable (A) show that 60% of lecturers disagreed that programmes had inter-disciplinary teaching activities designed to meet entrepreneurial needs of all students. Only 40% agreed. These findings show that inter-disciplinary teaching approaches in degree programmes were not meeting entrepreneurial needs of students. Data on variable (B) show that 60% of lecturers objected that universities offered incentives for research and scholarship on opportunity discovery and creation. Only 40% agreed. These findings show shortfalls in incentivising
lectures for researching and designing innovative pedagogical materials on teaching of entrepreneurship (Ijaz, 2012; Msipah, 2013). Results on variable (C) show that 66% of lecturers objected that degree programmes supported lecturers to create business ventures. Only 34% agreed. This shows that universities did not support academics’ initiatives to become entrepreneurs.

Data on variable (E) show that 82% of lecturers agreed that lecturers participated in strategic partnership activities with sectors in commerce and industry. These findings are in tandem with global practices put forward by Parker (2013) where lecturers contribute to development of local enterprises by providing research based knowledge while in exchange; enterprises support activities in degree programmes. Data on variable (G) show that 83% of lecturers disagreed with the statement that degree programmes and faculties provided orientation and in-service of lecturers in business opportunity searching and creation while 17% of the lectures agreed. This indicates lack of staff development programmes to capacitate lecturers to advance the curriculum into business opportunity searching and creation. Data on variable (H) show that 77% of lecturers disagreed that there was knowledge and technology transfer from degree programmes to support government programmes while 23% of the lecturers agreed. This confirms shortfalls in degree programmes’ initiatives in generating knowledge and technology for supporting national programmes on employment creation.
### 4.3.2: Lecturers’ Additional Comments on Teaching Strategies

Table 4.9

Lecturers’ comments on teaching strategies

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching business formation and growth skills</td>
<td>14</td>
<td>14.9</td>
</tr>
<tr>
<td>Teaching research and development</td>
<td>56</td>
<td>59.6</td>
</tr>
<tr>
<td>Teaching of Technopreneurship</td>
<td>31</td>
<td>33.0</td>
</tr>
<tr>
<td>Venture creation and innovation studies</td>
<td>30</td>
<td>31.9</td>
</tr>
<tr>
<td>No entrepreneurship teaching taking place</td>
<td>39</td>
<td>41.5</td>
</tr>
<tr>
<td>Lectures/tutorials</td>
<td>72</td>
<td>76.6</td>
</tr>
</tbody>
</table>

Source: Author (2018)

Data in table 4.9 show that comments from 77% of lecturers show that lectures/tutorials were common strategies of teaching entrepreneurship. Comments from 60% of the lecturers show that research and development was a common teaching strategy. Comments from 42% lecturers show that no entrepreneurship teaching took place in universities. These views were followed up through analysis of programme and course outlines. This shows that entrepreneurship teaching methods were limited to lecturer methods.
### 4.3.3. Entrepreneurship Lecturers’ Views On Programme Management Strategies

**Table 4.10**

**Lecturers’ views on programme management strategies**

<table>
<thead>
<tr>
<th>Cases</th>
<th>Emerging theme</th>
<th>Sub-themes</th>
<th>Substantiating statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strategies at universities with entrepreneurship degree programmes</td>
<td>Entrepreneurship courses in entrepreneurship degree programmes</td>
<td>Mass lecture methods, written assignments, projects, examinations</td>
</tr>
<tr>
<td>2</td>
<td>Entrepreneurship activities in entrepreneurship degree programmes</td>
<td>Entrepreneurship activities in entrepreneurship degree programmes</td>
<td>Venture creation studies, industrial attachments,</td>
</tr>
<tr>
<td>3</td>
<td>Entrepreneurship courses in business and economics programmes</td>
<td>Entrepreneurship courses in business and economics programmes</td>
<td>Mass lecture methods, written assignments, projects, examinations</td>
</tr>
<tr>
<td>4</td>
<td>Universities with no entrepreneurship degree programmes</td>
<td>Entrepreneurship courses in none business disciplines</td>
<td>1. Lectures on entrepreneurship courses in none business disciplines. 2. Lecturers on business courses in none business disciplines</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extra-curricular entrepreneurship activities</td>
<td>1. Groups of students do extra-curricular commercial activities, eg managing campus retail outlets 2. Students do extension work projects within respective programmes</td>
</tr>
<tr>
<td>5</td>
<td>Universal strategies</td>
<td>Government and Donor funded programmes e.g. (Graduate Entrepreneurship programme GEEP)</td>
<td>1. Lecturers assist voluntary groups of students in venture creation, eg, invention solar street lights for local authorities. 2. Mentoring students in business creation. (medicine, law and engineering Limited implementation. (plans remain on paper)</td>
</tr>
</tbody>
</table>

Source: Author (2018)
Table 4.10 show themes on strategies for programme management that emerged from lecturers at universities with entrepreneurship degree programmes and at universities with no entrepreneurship degree programmes. While some management strategies were universal, other strategies were predominantly characterised by courses and extra-curricular activities in entrepreneurship, business and none business degree programmes. These views were followed up through analysis of timetables, course and programme objectives. Sub-themes reflect dominance of lecture methods, extra-curricular activities and voluntary venture creation.

4.3.4. Lecturers’ Opinions on Partnership Strategies.

Table 4.11

| Lecturers’ opinions on partnership strategies:  n=94 |
|-----------------------------------------------|----------|--------|--------|--------|
| Strategy                                      | f  | %    | f    | %    |
| A Lecturers provide consultancy in community entrepreneurship activities | 52  | 55   | 42    | 45    |
| B Knowledge transfer from degree programmes to manufacturing technology | 52  | 55   | 42    | 45    |
| C Degree programmes exchange expertise and experiences with business and industry | 69  | 73   | 25    | 27    |
| D Degree programmes support government policies on entrepreneurship e.g. lecturers participating in youth empowerment programmes | 29  | 31   | 65    | 69    |
| E Degree programmes capacitate students to create self-employment ventures in communities | 41  | 44   | 53    | 56    |

Source: Author (2018).

Table 4.11 shows that all variables A, B, C, D and E emerged as outstanding trends with frequencies ranging between 27% and 60%. All these variables are analysed and interpreted next in alphabetical order followed by comments from open ended questions and data from interviews with entrepreneurship lecturers. Data in variable (A) show that 55% of lecturers agreed that university lecturers provided consultancy to local entrepreneurs and to community entrepreneurial projects while 45% of the lecturers disagreed. These practices show that degree
programmes were proactive in facilitating entrepreneurship development in their respective communities. In variable (B) 55% of lecturers confirm that there was knowledge generation and transfer from degree programmes to manufacturing technologies while 45% of the lecturers disagreed. These findings endorse that degree programmes advanced knowledge generated by students and lecturers into manufacturing sectors. Data in variable (C) show that 73% of lectures agreed that degree programmes exchanged expertise and experiences with business and industry while 27% of the lecturers disagreed. This confirms that universities valued strategic partnerships where degree programmes exchanged knowledge and experience with sectors in business and industry in order to open up business opportunities for students. Data in variable (D) show that 69% of lecturers objected that degree programmes supported government policies on opportunity discovery and creation by youths while 31% of the lecturers agreed. This confirms lack of engagement by the university curriculum in facilitating implementation of government programmes on employment creation. Lastly, data in variable (E) show that 55% of lecturers objected that degree programmes capacitlated students to create self-employment ventures in communities while 45% of the lecturers agreed. This confirms low capacity utilisation of students and graduates to search and create employment opportunities in communities.
4.3.5. Lecturers’ Additional Comments on Partnership Strategies

Table 4.12

*Lecturers’ comments on partnership strategies*

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students participate in community entrepreneurship</td>
<td>31</td>
<td>33.0</td>
</tr>
<tr>
<td>Career guidance and counselling services</td>
<td>42</td>
<td>44.7</td>
</tr>
<tr>
<td>Consultancy services in private/public enterprises</td>
<td>32</td>
<td>34.0</td>
</tr>
<tr>
<td>Community outreach to SMEs, small holder farmers/artisanal miners</td>
<td>42</td>
<td>44.7</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.12 shows that 45% lecturers gave comments showing that universities used career guidance and counselling services to facilitate implementation. Comments from 45% of lecturers show that universities facilitated the implementation of entrepreneurship curriculum through community outreach to SMEs, small holder farmers and artisanal miners. These comments were verified with programme objectives and students’ assignments. This shows dominance of career guidance and community outreach.
Table 4.13 shows that themes on partnerships did not only emerge from entrepreneurship lecturers of programmes (Appendix 2), but also from lecturers in commerce, none business, science and technical disciplines that were active in community outreach activities. In all these
cases curriculum implementation through partnership strategies was in the form of community outreach activities. Sub-themes show partnerships activities where lecturers and students participated in seminars, consultancy and product development projects in communities. However, lecturers’ views show lecturers faced constraints of lack of practical mentorship and capital for financing ventures and start-ups.

4.3.7. Students’ Opinions on Learning Strategies.

Table 4.14

Students’ opinions on learning strategies: n=235

<table>
<thead>
<tr>
<th>Strategy</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Traditional lecture methods</td>
<td>234</td>
<td>99</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>B Interactive multi-disciplinary activities</td>
<td>167</td>
<td>71</td>
<td>68</td>
<td>29</td>
</tr>
<tr>
<td>C Practical entrepreneurship activities</td>
<td>110</td>
<td>47</td>
<td>125</td>
<td>53</td>
</tr>
<tr>
<td>D Student support services for business opportunity searching and creation</td>
<td>226</td>
<td>96</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>E Inviting guest entrepreneurs to conduct lectures and tutorials</td>
<td>128</td>
<td>54</td>
<td>107</td>
<td>46</td>
</tr>
<tr>
<td>F Live, real case studies on forming business enterprises</td>
<td>133</td>
<td>57</td>
<td>102</td>
<td>43</td>
</tr>
<tr>
<td>G Engaging practicing entrepreneurs as mentors for business formation</td>
<td>93</td>
<td>40</td>
<td>142</td>
<td>60</td>
</tr>
<tr>
<td>H Commercialisation of new technologies from students’ researches</td>
<td>120</td>
<td>51</td>
<td>115</td>
<td>49</td>
</tr>
<tr>
<td>I Business planning workshops and competitions</td>
<td>95</td>
<td>40</td>
<td>140</td>
<td>60</td>
</tr>
<tr>
<td>J Start-ups and incubators for students</td>
<td>151</td>
<td>46</td>
<td>178</td>
<td>54</td>
</tr>
<tr>
<td>K Students’ participation in forming and running university business ventures</td>
<td>96</td>
<td>41%</td>
<td>139</td>
<td>59</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.14 show variables A, B, D, G, I and K that emerged as outstanding trends with frequencies ranging between 60% and 99%. These are analysed and interpreted next in...
alphabetical order followed by students’ comments from open ended questions and lastly by data from interviews with entrepreneurship students.

Data in variable (A) show that 99% of the students agreed that lecturers employed traditional lecture teaching methods in teaching entrepreneurship. This confirms the dominance of traditional teaching methods contrary to multi-disciplinary and interactive approaches that are critical in building enterprising competencies in students (Schutt 2010; Parker 2013). Data on variable (B) show that 71% of students agreed that degree programmes used interactive multi-disciplinary activities while 29% of the students disagreed. This confirms that teaching approaches in degree programmes were in tandem with interactive and multidisciplinary forms of teaching (O’Connor 2010). Data on variable (D) show that 96% of students agreed that degree programmes provided student support services for business opportunity searching and creation while 4% of the students disagreed. This confirms widespread use of student support services as a strategy for facilitating curriculum implementation.

Data in variable (G) show that 60% of students objected that degree programme engaged practicing entrepreneurs as mentors in business formation while 40% of the students agreed. This confirms that degree programmes fell short in harnessing proficiency of practicing entrepreneurs as a facilitating strategy. Data on variable (I) show that 60% of students disagreed that degree programmes employed business planning workshops and competitions as teaching strategies while 40% of the students agreed. This confirms that students were not being motivated to search and create business opportunities during the course of their studies. Data in variable (K) show that 56% of students disagreed that students participated in forming and running university
business ventures while 44% of the students agreed. This indicates strategic shortfalls in degree programmes in terms of providing students with action oriented platforms for business opportunity searching, discovery and creation.

4.3.8. Students’ Additional Comments on Learning Strategies

Table 4.15

*Students’ comments on learning strategies*

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies only exist as one off semester courses</td>
<td>187</td>
<td>79.6</td>
</tr>
<tr>
<td>Limited support for student group activities</td>
<td>129</td>
<td>54.9</td>
</tr>
<tr>
<td>Degree programmes do not lead to entrepreneurship</td>
<td>190</td>
<td>80.9</td>
</tr>
<tr>
<td>Limited community entrepreneurship activities for science and engineering students</td>
<td>26</td>
<td>11.1</td>
</tr>
<tr>
<td>Limited entrepreneurship studies for Arts and Social science students</td>
<td>77</td>
<td>32.8</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.15 shows that comments from 81% of students show that universities offered degree programmes that did not lead to entrepreneurship. Comments from 80% of the students show that entrepreneurship studies were done as courses. Comments from 55% of the students show that there was limited university support for students who did group activities. This shows that entrepreneurship studies were done in the form of courses that did not lead students into entrepreneurship.
### 4.3.9. Entrepreneurship Students’ Views on Learning Strategies

Table 4.16

*Entrepreneurship students’ views on learning strategies*

<table>
<thead>
<tr>
<th>Case</th>
<th>Emerging themes</th>
<th>Emerging sub themes</th>
<th>Substantiating sentences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Traditional teaching methods</td>
<td>Modularised entrepreneurship degree programmes</td>
<td>Mass lectures/ tutorial discussions/ written assignments/ examinations, research projects</td>
</tr>
<tr>
<td>2</td>
<td>Venture creation studies</td>
<td>Industrial attachments</td>
<td>Studies are: 1. Too theoretical 2. Lack practical component 3. Insufficient to capacitate students to venture into businesses.</td>
</tr>
<tr>
<td>3</td>
<td>Borrowing courses from commerce disciplines</td>
<td>One off semester courses</td>
<td>1. Courses borrowed as degree requirements 2. Courses only cover written assignments and examinations 3. Courses do not inspire one to become an entrepreneur 4. Lack of practical application to core studies.</td>
</tr>
<tr>
<td>4</td>
<td>Interdisciplinary group activities</td>
<td>Business/commerce students do business activities</td>
<td>1. Income generation activities at campuses 2. Lack of support for incubation.</td>
</tr>
<tr>
<td>5</td>
<td>Technology innovation studies</td>
<td>Science/Technical and Engineering students pursue technology based projects</td>
<td>1. Lack of follow up on projects by experts 2. Some lecturers reluctant to assist students get internal and external support. 3. Limited networking of lecturers and students from different disciplines.</td>
</tr>
</tbody>
</table>

Source: Author (2018).
Table 4.16 show themes that emerged from interviewed entrepreneurship students in degree programmes (Appendix, 2). Themes reflect strategies of lecture methods, venture creation studies, internships and technology innovation projects. Sub themes and substantiating views show teaching strategies characterised by modularised content, mass lectures with bias towards academic orientation and little incubation. This shows that there were shortfalls in providing students with action oriented experiences for opportunity searching, discovery and creation.

4.3.10. Entrepreneurship Students’ Views on Support Strategies

Table 4.17

*Entrepreneurship students’ views on support strategies*

<table>
<thead>
<tr>
<th>Case</th>
<th>Emerging themes</th>
<th>Emerging subthemes</th>
<th>Substantiating statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Students in entrepreneurship degree programmes</td>
<td>Industrial attachments</td>
<td>1. Lack of entrepreneurial support during attachment&lt;br&gt;2. Attachments fail to provide needed entrepreneurial support&lt;br&gt;3. Need for support for students to experience self-employment during attachments</td>
</tr>
<tr>
<td>2</td>
<td>Students in commerce faculty/programme based groups</td>
<td>University/SMEs partnerships</td>
<td>1. Limited university/SMEs partnerships to support students&lt;br&gt;2. Limited students’ access to SMEs for mentorship</td>
</tr>
<tr>
<td>3</td>
<td>Students in interdisciplinary entrepreneurship groups</td>
<td>University support</td>
<td>1. Weak university commitment to venture creation studies, incubation and business start-ups&lt;br&gt;2. Weak strategic partnerships</td>
</tr>
<tr>
<td>4</td>
<td>Students in none business programmes</td>
<td>University support</td>
<td>Tenders to groups of students.[Production of materials and stationery services at campuses]</td>
</tr>
<tr>
<td>5</td>
<td>External support through University/stakeholder partnerships</td>
<td>1. Engineering/technical students participate in community projects [e.g., local authority programmes]&lt;br&gt;2. Lack of input from local enterprises,</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2018).
Table 4.17 show that themes did not only emerge from students in entrepreneurship degree programmes but also from students in commerce programmes, none business programmes and interdisciplinary groups who were engaged in entrepreneurship activities. Emerging sub-themes from cases 1 to 5, show that universities used support strategies of industrial attachments, university and SMEs partnerships, internal and external support. However, students’ views depict constraints of inadequate entrepreneurial support and opportunities needed for creating small ventures during attachments. Students’ views also show limited mentorship from SMEs and university support for incubation.

4.3.11. Syntheses of Findings on Teaching Strategies
The study sought to describe strategies that universities in Zimbabwe use to facilitate implementation of entrepreneurship curriculum in degree programmes. Lecturers’ opinions on teaching strategies indicate that the inter-disciplinary teaching approaches used are not driven by diversified needs of all students. This is contrary to results from a study by Pittway and Cope (2014) where students’ preferences contributed to formation of courses, extra curricula activities, incubators and start-ups which in turn led students to formation of SMEs. Lecturers’ opinions also show universities’ shortfalls in incentivising lecturers for researching and shaping pedagogical materials on entrepreneurship. These findings are contrary to research findings from cases in the United Kingdom where lecturers were active in designing the curriculum. In some cases, in UK, the curriculum emerged from individual disciplines and was constantly refined by lecturers in response to labour market demands and preferences (Collins, Hanger and Locke, 2014).
Lecturers’ opinions indicate that degree programmes have shortfalls in supporting lecturers’ entrepreneurship initiatives. This is contrary to research findings from cases in UK where resources were harnessed from business and industry to develop lecturers’ expertise (OECD, 2012). Lecturers’ opinions indicate limited staff development programmes for lecturers to reform the curriculum to business opportunity searching and creation. This is contrary to results from a study by Smith, Flowers and Lurkin (2009) where high profile entrepreneurs input into entrepreneurship curriculum design and implementation. Lecturers’ opinions also show lack of creativity in contributing to technology development and national employment creation programmes. This is different from cases in East Africa where lecturers reformed degree programmes to make the curriculum incorporate national programmes on reconstruction and socio-economic transformation (Donath, 2008). However, sources of creativity shortfalls may be similar to cases in West Africa where shortfalls emanated from, ineffective training of lecturers, poorly coordinated entrepreneurship centre sand programmes’ partnerships with business and industry (Uche, 2012).

Opinions from students across programmes shown by the quantitative data depict low capacity utilisation of students’ potentials in searching, discovery and creation of employment opportunities in communities. These results portray similar findings from case studies carried in Zimbabwe that established programmes’ shortfalls in responding to labour market and students’ needs. This was evidenced by modularised content and borrowed entrepreneurship courses that had little or no practical experiences in venture creation (Muponda, 2012; Mwenje, 2016). Students’ opinions from quantitative data also show little students’ engagement with practicing entrepreneurs, business planning workshops and operating campus based business ventures.
These shortfalls are similar to findings from cases in South Africa where teaching methods were predominantly classroom based and characterised by lecture methods with little or no practical business planning, case visits and business seminars (Fayolle 2013; Sebuwufu and Ludwick 2012). Students’ opinions show a lack of commitment in motivating students to search and create business opportunities during the course of studies. However, findings from cases in USA show strong multidisciplinary knowledge generation and transfer to ventures from science, technology and engineering degree programmes (Mwasalwiba, 2010). Quantitative data from students across programmes show widespread use of mass lectures and interdisciplinary tutorials. While these strategies resemble configurations in some cases in Europe, minor variations exist where the same curriculum manifest as entrepreneurship courses in various programmes outside parent programmes (Akana and Etor, 2013; Etor and Akpama, 2014).

Qualitative data from entrepreneurship lecturers depict programme shortfalls in delivering action oriented experiences for business opportunity searching, discovery and creation. For example, one lecturer said “there is no provision where lecturers provide practical mentorship to students pursuing entrepreneurship.” This differs from entrepreneurship degree programmes from Europe where degree programmes have action oriented activities for managing intellectual properties, benchmarking, and support students for technology transfer (Cooper and Lucas, 2014). Entrepreneurship lecturers also highlight the use of mass lectures and course work with fewer opportunities to engage students in extra-curricular business activities. This was supported by programme and course outlines available. Another lecturer said “the university does not provide students with funding for start-ups.” These findings differ from a study by (NIRAS, 2012) in Europe where government academic departments provide resources for harnessing and
mentoring innovative ideas from degree programmes. Capital is specifically targeted for facilitating start-ups and small businesses creation in science and technology domains (NIRAS, 2012). Views from entrepreneurship lecturers depict programmes’ shortfalls in harnessing proficiency of practicing entrepreneurs in facilitating implementation. This shortfall is contrary to findings from a study by Parker (2013), where strategic partnerships between degree programmes, public and the private enterprises on a win-win basis harnesses external expertise. Results show active participation of business and industry in science, engineering, information and communication technology programmes (Parker, 2013; Blenker, Dreister and Nelson 2015).

Qualitative data from entrepreneurship students confirm the dominance of the traditional lecture method. This was supported by timetables and assignments given. For example, one student said, “there are no practical activities in entrepreneurship. The courses we do, do not inspire us to become entrepreneurs.” These findings are contrary to results from USA by O’Connor (2010) that show various configurations of teaching methods categorised as processes, academic and experiential. The lecture method has shortfalls when compared to configurations dominated by students’ support for research on innovations, spin offs, community outreach, technology development and knowledge transfer into business and industry (Solomon, 2013; Katz, 2013). Views from entrepreneurship students depict a dominance of academic courses that have no practical venture creation and incubation activities. This narrow scope of entrepreneurship curriculum is different from cases in USA, Europe and North Africa, where a single university has various configurations manifesting either as centres, stand-alone programmes, courses or embedded extra-curricular activities (Arroyo-Vazquez and Van de Sijde, 2013; Kirby, 2013). Views from entrepreneurship students depict limited internal and external support for students’
creativities. This shows lack of depth in terms of students support in comparison to findings from a study by Kaijage (2012) in East Africa where the provision of student support had shifted from mainstream business studies to resource mobilisation for business opportunity searching and creation.

4.4. Evaluation of Curriculum Integration Strategies

4.4.1: Lecturers’ Opinions on Integration Strategies

Table 4.18

*Lecturers’ opinions on integration strategies: n=94*

<table>
<thead>
<tr>
<th>Strategy</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  Compulsory entrepreneurship courses offered in all degree programmes</td>
<td>30</td>
<td>32</td>
<td>64</td>
<td>68</td>
</tr>
<tr>
<td>B  Spreading opportunity searching and creation from business programmes to all programmes</td>
<td>8</td>
<td>8</td>
<td>86</td>
<td>92</td>
</tr>
<tr>
<td>C  All functionaries work as ecosystems in searching and creating business opportunities</td>
<td>39</td>
<td>42</td>
<td>55</td>
<td>58</td>
</tr>
<tr>
<td>D  Students and lecturers work in interdisciplinary teams to make new products and services</td>
<td>45</td>
<td>48</td>
<td>49</td>
<td>52</td>
</tr>
<tr>
<td>E  Lecturers teach entrepreneurship courses across all programmes</td>
<td>31</td>
<td>33</td>
<td>63</td>
<td>67</td>
</tr>
<tr>
<td>F  Networking centres coordinate support services for searching and creating business opportunities</td>
<td>55</td>
<td>59</td>
<td>39</td>
<td>41</td>
</tr>
<tr>
<td>G  Degree programmes collaborate in producing entrepreneurship curriculum</td>
<td>33</td>
<td>35</td>
<td>61</td>
<td>65</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.18 show variables A, B, D, E, F and G that emerged as outstanding trends with frequencies ranging up to 92%. The variables were analysed and interpreted in alphabetical order followed by students’ comments from open ended questions and lastly by data from interviews with entrepreneurship students. Data on variable (A) show that 68% of lecturers disagreed that degree programmes offered compulsory entrepreneurship courses to all students, while, 32% of
the lecturers agreed. This confirms shortfalls of degree programmes in terms of integrating the curriculum across all disciplines. Data on variable (B) show that 92% of lecturers disagreed that the curriculum on business opportunity searching and creation was spreading from business programmes to all programmes while 8% of the lecturers agreed. This shows shortfalls in strategy in terms of building and expanding entrepreneurship curriculum from business to none business disciplines. Data in variable (C) show that 58% of lecturers disagreed that all functionaries worked as ecosystems in searching and creating business opportunities while 42% of the lecturers agreed. This confirms that universities did not utilise their employees and structures to entrench a philosophy of opportunity searching and creation into all disciplines.

Data on variable (D) show that 52% of lecturers disagreed that students and lecturers functioned in interdisciplinary teams to create new products and services while 48% of the lecturers agreed. This confirms strategic shortfalls in terms of promoting interdisciplinary teamwork in research and innovation. Data in variable (E) show that 67% of lecturers disagreed that lecturers taught entrepreneurship courses across all programmes while 33% of the lecturers agreed. This confirms shortfalls in terms of university wide strategies of curriculum integration. Data on variable (F) show that 59% of lecturers confirmed presence of networking centres that coordinated support services for searching and creating business opportunities while 41% of the lecturers disagreed. This confirms that degree programmes had their integration efforts facilitated through coordinating enters. Data on variable (G) show that 65% of lecturers disagreed that entrepreneurship was a product of all degree programmes while 35% of the lecturers agreed. This shows that entrepreneurship curriculum did not stem from coordination of all degree programmes.
4.4.2. Lecturers’ Additional Comments on Integration Strategies

Table 4.19

Lecturers’ comments on integration strategies

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrowing courses from commerce programmes</td>
<td>58</td>
<td>61.7</td>
</tr>
<tr>
<td>Multidisciplinary entrepreneurship courses run by commerce faculties</td>
<td>61</td>
<td>64.9</td>
</tr>
<tr>
<td>Entrepreneurship mass lectures by commerce lecturers</td>
<td>64</td>
<td>68.1</td>
</tr>
<tr>
<td>Extra-curricular commercial activities by multidisciplinary groups of students</td>
<td>29</td>
<td>30.9</td>
</tr>
<tr>
<td>Research, technology and innovation activities by all students</td>
<td>23</td>
<td>24.5</td>
</tr>
</tbody>
</table>

Source: Author (2018).

In table 4.19 show comments from 68% lecturers that indicated use of integration strategies where entrepreneurship was taught through mass lecturers by commerce lecturers. Comments from 65% of lecturers show that universities offered multidisciplinary entrepreneurship courses run by commerce faculties. Comments from 62% of lecturers show that integration strategies implemented through borrowing courses from commerce programmes. This was confirmed by course outlines, timetables and assignments given. This shows that integration strategies were limited to diffusion of the curriculum from commerce programmes.
4.4.3. Entrepreneurship Lecturers’ Views on Integration Strategies.

Table 4.20

Entrepreneurship lecturers’ views on integration strategies

<table>
<thead>
<tr>
<th>Cases</th>
<th>Emerging themes</th>
<th>Emerging sub-themes</th>
<th>Substantiating statements</th>
</tr>
</thead>
</table>
| 1     | Integration form entrepreneurship programmes to other programmes. | Entrepreneurship lecturers teach courses in commerce programmes | 1. Spread is confined to business disciplines.  
2. No teaching of entrepreneurship in Arts, Social Science and Humanities. |
| 2     | Commerce lecturers teach business and economics courses in science and engineering programmes | 1. Teaching only confined to business studies  
2. Courses are elective  
3. Limited focus on entrepreneurship |
| 3     | Interdisciplinary entrepreneurship activities | 1. Interdisciplinary venture creation activities  
2. Limited resource mobilisation |
| 4     | Integration from commerce to none commerce programmes | 1. Commerce lecturers organise commercial activities for commerce students  
2. Commerce lectures facilitate commercial activities in science, engineering and technical disciplines. |
| 5     | Integration from none business disciplines to other programmes. | Lectures in science, engineering and technical disciplines organise commercial oriented outreach activities for their students. |

Source: Author (2018).

Table 4.20 shows themes emerging from interviewed entrepreneurship lecturers. Themes show dominance of configurations of integrating the curriculum from entrepreneurship programmes to other programmes. There is limited transmission of entrepreneurship curriculum from commerce to none commerce programmes and from none business programmes to other programmes. Sub-themes reflect teaching approaches confined to integrating the curriculum in none business
programmes either as entrepreneurship or commerce courses. This was confirmed by available tutorial letters, course aims and objectives in the faculties. Substantiating statements reflect a limited scope of integration and less commitment to expanding the curriculum into none business disciplines.

4.4.4. Students’ Opinions on Integration Strategies.

Table 4.21

Students’ opinions on integration strategies: n=235

<table>
<thead>
<tr>
<th>Strategy</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Lecturers and students from different programmes network in business opportunity search and creation</td>
<td>88</td>
<td>37</td>
<td>147</td>
<td>63</td>
</tr>
<tr>
<td>B Students in interdisciplinary teams collaborate in creating businesses ventures</td>
<td>105</td>
<td>45</td>
<td>130</td>
<td>55</td>
</tr>
<tr>
<td>C Practicing entrepreneurs provide venture creation advisory services to students from across all programmes</td>
<td>97</td>
<td>41</td>
<td>138</td>
<td>59</td>
</tr>
<tr>
<td>D Universities assist students from across all programmes to access capital to start ventures</td>
<td>21</td>
<td>9</td>
<td>214</td>
<td>91</td>
</tr>
<tr>
<td>E Students in interdisciplinary teams research on technology related business formation</td>
<td>132</td>
<td>56</td>
<td>103</td>
<td>44</td>
</tr>
<tr>
<td>F Lecturers from different programmes support students to search and create business opportunities</td>
<td>105</td>
<td>45</td>
<td>130</td>
<td>55%</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.21 show variables A, B, D, E, and F that emerged as outstanding trends with frequencies ranging up to (91%). These were analysed and interpreted next in alphabetical order. Data on variable (A) show that 63% of students disagreed that students and lecturers from different disciplines networked in business opportunity searching and creation to promote venture creation while 37% of the students agreed. This confirms that interdisciplinary networking for purposes of venture creation was not widely practiced in degree programmes. Data on variable (B) show
that 55% of students objected that degree programmes supported interdisciplinary teams of students in creating businesses ventures while 45% of students agreed. This confirms that there were shortfalls in encouraging students to start and grow businesses in groups during the course of their studies. Data on variable (C) show that 59% of students objected that degree programmes harnessed expert advisory services from practicing entrepreneurs to mentor students across all disciplines while 41% of the students agreed, confirming shortfalls in utilising expertise from business and industry. Data on variable (D) show that 91% of students disagreed that universities supported students from all programmes to access capital to start new businesses while 9% of the students agreed. This confirms that there were shortfalls in providing monetary assistance to develop their discovered or created opportunities into business ventures. Data on variable (E) show that 55% of students agreed that students in interdisciplinary teams researched on technology related business formation. There were 45% of the students who disagreed. This confirms that degree programmes were in line with government’s policy of searching and creating opportunities from Science, Technology Engineering and Mathematics (STEM). Data on variable (F) show that 55% of students agreed that lecturers from different programmes support students to search and create business opportunities while 45% of the students disagreed. This shows that not many degree programmes utilised their varied lecturers’ expertise to guide students pursuing ventures in their different domains.
4.4.5. Students’ Comments on Integration Strategies.

Table 4.22

 Students’ comments on integration strategies

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interdisciplinary mass lectures</td>
<td>184</td>
<td>78.3</td>
</tr>
<tr>
<td>Interdisciplinary tutorial groups</td>
<td>187</td>
<td>79.6</td>
</tr>
<tr>
<td>Outreach projects by students in interdisciplinary groups</td>
<td>149</td>
<td>63.4</td>
</tr>
<tr>
<td>Commercial activities by students from different programmes</td>
<td>77</td>
<td>32.8</td>
</tr>
</tbody>
</table>

Source: Author (2018).

In table 4.22 comments from 80% students that show that universities used interdisciplinary tutorial groups to facilitate implementation. Comments from 78% of the students show that universities used interdisciplinary mass lecturers. Comments from 63% of lecturers show use of students in interdisciplinary groups participated in community entrepreneurial projects. These findings were confirmed by records of timetables and tutorial reports made available. This shows that integration strategies were driven more by interdisciplinary mass lectures and tutorials and less by experiential activities.
4.4.6. Students’ Opinions on Universities’ Commitment to Integration

Table 4.23

Students’ opinions on universities’ commitment to integration: n=235

<table>
<thead>
<tr>
<th>Interdisciplinary activity</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Interdisciplinary academic activities promote searching and creation of</td>
<td>227</td>
<td>97</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>business opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Centres coordinate conversion of discovered and created opportunities</td>
<td>92</td>
<td>35</td>
<td>153</td>
<td>65</td>
</tr>
<tr>
<td>into business ventures</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Students work in interdisciplinary teams researching on opportunities for</td>
<td>106</td>
<td>45</td>
<td>129</td>
<td>55</td>
</tr>
<tr>
<td>developing new products and services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Simulated business enterprises created and run by students from different</td>
<td>80</td>
<td>34</td>
<td>155</td>
<td>66</td>
</tr>
<tr>
<td>disciplines</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Business incubators for students working in interdisciplinary teams</td>
<td>63</td>
<td>27</td>
<td>172</td>
<td>73</td>
</tr>
<tr>
<td>F Business start-ups and incubators for Arts, Social Science/ Humanities</td>
<td>6</td>
<td>3</td>
<td>229</td>
<td>97</td>
</tr>
<tr>
<td>students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.23 shows that variables A, B, D, E and F emerged as major trends with frequencies ranging up to (97%). These are analysed and interpreted next in alphabetical order followed by students’ comments from open ended questions and lastly data from interviews with entrepreneurship students. Data in variable (A) shows that 97% of students confirmed that interdisciplinary academic activities facilitated the searching and creation of business opportunities while 3% of the students disagreed. This confirms that degree programmes aligned their interdisciplinary academic activities into opportunity searching, discovery and creation. Data on variable (B) show that 65% of students objected that universities had centres that coordinated conversion of discovered and created opportunities into business ventures while 35% of the students agreed. This confirms that degree programmes were not aligned to focused strategies of applying the entrepreneurship centre concept to coordinate formal and informal entrepreneurship activities.
Data on variable (D) show that 66% of students disagreed that universities had simulated business enterprises created and run by students from across all disciplines while 34% of the students agreed. This shows that degree programmes fell short in simulating the creation of business ventures by students and lecturers in interdisciplinary teams. Data on variable (E) show that 73% of students disagreed that degree programmes had business incubators for students operating in interdisciplinary teams while 27% of the students agreed. This confirms that there were shortfalls in utilising incubators in facilitating university wide practical opportunity searching and creation. Data in variable (F) show that 97% of students disagreed that universities developed start-ups and incubators for Arts, Social Science and Humanities programmes while 3% of the students agreed. This confirms shortfalls in terms of spreading the reaching of opportunity searching, discovery and creation in none business disciplines.

### 4.4.7. Students’ Comments on Universities’ Commitment to Integration

Table 4.24

**Students’ comments on universities’ commitment to integration**

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bias towards academic integration than practical activities</td>
<td>163</td>
<td>69.4</td>
</tr>
<tr>
<td>Entrepreneurship activities only confined to commerce disciplines</td>
<td>66</td>
<td>28.1</td>
</tr>
<tr>
<td>Entrepreneurship courses not offered to all programmes</td>
<td>124</td>
<td>52.8</td>
</tr>
<tr>
<td>Limited support for interdisciplinary groups of students pursuing entrepreneurship</td>
<td>103</td>
<td>43.8</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.24 shows that all comments given were negative. Comments from 69% of students show universities’ bias towards academic integration than practical activities. Comments from 53% of students show that entrepreneurship activities were only confined to commerce disciplines.
These findings were verified by records availed by lecturers. This shows that universities were not committed to radiant strategies of integration.

4.4.8. Entrepreneurship Students’ Views on Integration Strategies.

Table 4.25

<table>
<thead>
<tr>
<th>Case</th>
<th>Emerging theme</th>
<th>Emerging subtheme</th>
<th>Substantiating statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Students in entrepreneurship degree programmes</td>
<td>Integration from entrepreneurship</td>
<td>1. Entrepreneurship students network with students from commerce, business and economics during combined lectures.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>programmes to other programmes</td>
<td>2. Tutorials with students from technical, engineering disciplines.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Borrowed courses from entrepreneurship department</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. No supporting practical activities</td>
</tr>
<tr>
<td>2</td>
<td>None business students borrow courses from</td>
<td>Integration from entrepreneurship and</td>
<td>1. Few opportunities to network with business and entrepreneurship students,</td>
</tr>
<tr>
<td></td>
<td>entrepreneurship and business disciplines</td>
<td>business programmes</td>
<td>2. Courses provide commercial practice/enterprising to science and technical disciplines.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. No supporting practical activities</td>
</tr>
<tr>
<td>3</td>
<td>Students do entrepreneurship activities in</td>
<td>Multidisciplinary approach to</td>
<td>1. No opportunities for students from business and science disciplines to work in groups</td>
</tr>
<tr>
<td></td>
<td>interdisciplinary groups</td>
<td>integration</td>
<td>2. No opportunities for sharing ideas in venture creation,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. No platforms for resource mobilisation</td>
</tr>
<tr>
<td>4</td>
<td>Community outreach interdisciplinary teams</td>
<td>Multidisciplinary and experiential</td>
<td>1. Few opportunities for integration into community entrepreneurship.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>approach to integration</td>
<td>2. Few business formation workshops in communities to spread the concept of entrepreneurship.</td>
</tr>
<tr>
<td>5</td>
<td>Networking at degree/ faculty level</td>
<td>Integration through faculty/department</td>
<td>1. Few business competitions at /faculty/department level.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>networking</td>
<td>2. Societies and clubs spread entrepreneurship spirit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Limited resource provision for societies and club activities</td>
</tr>
</tbody>
</table>

Source: Author (2018).
Table 4.25 shows themes emerging from students in entrepreneurship degree programmes. Themes show cases of students in entrepreneurship degree programmes and none business students who borrowed courses from entrepreneurship and business disciplines. These were confirmed by comparing course outlines and timetables. It also shows cases of students who networked at department and faculty level. There is no integration of programme activities emerging from individual none business programmes. Students’ views show dominance of tutorials with limited support for practical activities, networking, workshops and resource provision.

4.4.9. Syntheses of Findings on Integration Strategies

The study sought to assess the extent to which curriculum integration strategies in universities in Zimbabwe facilitate implementation of entrepreneurship programmes. Quantitative data from lecturers across all disciplines indicate that there was limited teaching of entrepreneurship across programmes. However, results established by Cooney and Murray (2012) show that while in some universities in USA, degree programmes taught entrepreneurship, few programmes embraced input from science, technology and engineering disciplines resulting in limited high-tech interdisciplinary activities essential in the implementation of entrepreneurship curriculum. Lecturers’ opinions also highlight shortfalls in expanding entrepreneurship curriculum to none business disciplines. However, the results from cases in West Africa established how degree programmes developed mechanisms for coordinating integration of entrepreneurship curriculum from degree programmes that housed it to other programmes (Cooney and Murray, 2012).
Lecturers’ opinions also depict strategic shortfalls in promoting interdisciplinary teamwork in research and innovation. These results differ from those in universities in West Africa that depict team promotion strategies in degree programmes that permeated into engineering, political science and agriculture disciplines (Sheta, 2012). Data from lecturers across disciplines also show that the curriculum did not stem from collaboration of all degree programmes. This is contrary to practices in universities in UK where degree programmes networked through university entrepreneurship centres, to motivate all students into innovations and commercialisation (Halac and Bulut, 2012; Boyle, 2010).

Quantitative data from students across disciplines confirm limited interdisciplinary networking for venture creation and little encouragement for all students to generate small businesses. However, a case study in Zimbabwe by Manuere (2014) show that networked and synchronised manufacturing initiatives took place in various degree programmes in collaboration with external stakeholders. Students’ opinions show low commitment to integration evidenced by lack of centres for coordination entrepreneurship activities, simulated businesses and incubators. This is contrary to practices in universities in Europe where different configurations of entrepreneurship centres, technology centres and innovation laboratories are available (Halac and Bulut, 2012).

Students’ opinions show that interdisciplinary networking for purposes of venture creation was not widely practiced norm among degree programmes. This is contrary to the findings of studies in West Africa where science, technology and engineering programmes were active in establishing compulsory courses on business venture creation (Bawuah, 2014). Opinions from all students also depict shortfalls in organising all students to create and grow businesses in groups.
These shortfalls resemble experience from Ghana and Nigeria where over emphasis on academic orientated course work activities overshadowed group experiential activities (Nwekeaku 2013; Bawuah, 2014). Opinions from all students also depict degree programmes’ shortfalls in utilising wide-ranging lecturers’ expertise to mentor students pursuing ventures emanating from domains in degree programmes. This is contrary to practices in Europe where all lecturers, particularly in creative programmes, coordinated business culture promotion and resource mobilisation for incubators and start-ups (European Commission, 2008; Linan, 2011). Opinions from all students also depict limited utilisation of incubators by all programmes to facilitate university wide practical opportunity searching and creation. These shortfalls were also established by Binks and Starkey (2011) in European countries where incubators and entrepreneurship centres had biases towards science, technology and engineering students with less commitment in Arts and Humanities programmes.

Qualitative data from entrepreneurship lecturers and document reviews depict limited commitment to using the entrepreneurship centre concept to coordinate formal and informal entrepreneurship activities. This is contrary to results from practices in Europe where results show centres, configured either as inter-university degree programmes or as collaborative mechanisms for producing generic supplementary learning materials (Meyer, 2014; Gibb, 2014). Views from entrepreneurship lecturers also show that integration of courses was active in commerce programmes with less penetration into none commerce programmes. One lecturer said “there is no teaching of entrepreneurship in none business programmes.” However, in UK integration mechanisms spread into engineering and science programmes capacitating students to transform their knowledge and technical skills into business start-ups (Boyle, 2010). Data from
entrepreneurship lecturers also show shortfalls in reforming the curriculum into opportunity searching, discovery and creation in all degree programmes. This is contrary to results from cases in Europe where a centre that was configured as an interdisciplinary degree programme coordinated reforms in all degree programmes (Boyle, 2010).

Qualitative data from entrepreneurship students and document reviews depict widespread multidisciplinary mass lectures and borrowing of entrepreneurship courses by other programmes. One student said “most of our courses are borrowed from other commerce programmes”. These findings are in line with findings from a study by Chinjekure (2013) in Zimbabwe that show integration strategies of borrowing compulsory and elective courses. Data from entrepreneurship students depict shortfalls in creating simulated business ventures by students and lecturers in interdisciplinary teams. These shortfalls were also similar to results from Chinjekure (2013) in Zimbabwe that show constraints in transmitting business creation into none business programmes and of lack of commitment in interdisciplinary team work. Opinions from entrepreneurship students also show limited expansion of extra-curricular activities from entrepreneurship programmes to science and none science programmes. These findings are contrary to practices in Europe where results from a case study show that courses in science tech-disciplines were blended with entrepreneurship and innovation content (Boyle, 2010).
4.5. Evaluation of Culture Promotion Strategies

4.5.1. Lecturers’ Opinions on Culture Promotion Strategies.

Table 4.26

Lecturers’ opinions on culture promotion strategies: n=94

<table>
<thead>
<tr>
<th>Strategy for promoting entrepreneurship spirit</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Programmes promote visions, missions and values for searching and creating business opportunities.</td>
<td>31</td>
<td>33</td>
<td>63</td>
<td>67</td>
</tr>
<tr>
<td>B Programmes contribute to university wide frameworks for searching and creating business opportunities.</td>
<td>24</td>
<td>26</td>
<td>70</td>
<td>74</td>
</tr>
<tr>
<td>C Programmes network with business and industry in searching and creating opportunities for income generation</td>
<td>76</td>
<td>81</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>D Programmes generate environments that cultivate values of opportunity searching and creation.</td>
<td>58</td>
<td>62</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td>E Lecturers and students are capacitated to think and act like entrepreneurs</td>
<td>58</td>
<td>62</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td>F Programmes promote staff commitment towards business opportunity searching and creation.</td>
<td>41</td>
<td>44</td>
<td>53</td>
<td>56</td>
</tr>
<tr>
<td>G Programmes promote climates that promote opportunity searching and creation from government policy, university/industry partnerships</td>
<td>42</td>
<td>45</td>
<td>52</td>
<td>55</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.26 shows that variables A, B, C, D, E, F and G emerged as outstanding trends with frequencies ranging up to 81%. The variables were analysed and interpreted next in alphabetical order followed by students’ comments from questionnaire open ended questions and lastly by data from interviews with entrepreneurship lecturers. Data in variable (A) show that 67% of lecturers disagreed that programmes promoted the vision, mission and values for searching and creating business opportunities while 33% of the lecturers agreed. This confirms degree programmes’ shortfalls in terms of cultivating values for opportunity searching, discovery and creation as a business culture. Data in variable (B) show that 74% of lecturers disagreed that,
degree programmes contributed to university-wide frameworks for searching and creating business opportunities while 26% agreed. This confirms institutional shortfalls in synchronising university wide searching and creation of business opportunities. Data on variable (C) show that 81% of lecturers agreed that programmes networked with business and industry in searching and creating opportunities for income generation while 19% disagreed. This confirms that degree programmes promoted entrepreneurship culture by engaging students in searching and creating income generation opportunities in collaboration with business and industry.

Data on variable (D) show that 62% of lecturers agreed that degree programmes generated environments that cultivated values of opportunity searching and creation while 38% of the lecturers disagreed. This shows that degree programmes contributed to the creation of cultural environments that promote the spirit of opportunity searching and creation. Data in variable (E) show that 62% of lecturers agreed that lecturers and students were capacitated to think and act like entrepreneurs while 38% disagreed. This confirms that degree programmes capacitate their students with entrepreneurial attributes and values. Data on variable (F) show that 56% of lecturers disagreed that programmes promoted staff commitment towards business opportunity searching and creation. Only 44% agreed. This shows that commitment in promoting culture of opportunity searching and creation was not consistent across degree programmes. Data in variable (G) show that 55% of lecturers disagreed that, degree programmes generated climates for opportunity searching and creation from government policy, university/industry partnerships while (45%) agreed. This shows that government policy, university/industry partnerships were not utilised by degree programmes in promoting entrepreneurship cultures.
4.5.2. Lecturers’ Additional Comments on Culture Promotion Strategies

Table 4.27

Lecturers’ comments on culture promotion strategies

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career, science, innovation, business development expos</td>
<td>58</td>
<td>61.7</td>
</tr>
<tr>
<td>Exhibitions at trade, tourism, mining, agricultural fairs</td>
<td>61</td>
<td>64.9</td>
</tr>
<tr>
<td>University/industry partnerships</td>
<td>28</td>
<td>29.8</td>
</tr>
<tr>
<td>Student services centres</td>
<td>47</td>
<td>50.0</td>
</tr>
<tr>
<td>Alumni platforms</td>
<td>41</td>
<td>43.6</td>
</tr>
<tr>
<td>Strategies (departmental aims and objectives)</td>
<td>25</td>
<td>26.6</td>
</tr>
</tbody>
</table>

Source: Author (2018).

In table 4.27, comments from 64% of lectures show that students participated at exhibitions at trade, tourism, mining and agricultural shows. Comments from 62% of lecturers show that students participated in career, science, innovation and business development expositions. Comments from (50%) lecturers show that universities used student service centres. This was verified with records of activities for previous semesters. This shows that culture promotion was limited to exhibitions, with little emphasis on curriculum strategy formulation.
4.5.3. Entrepreneurship Lecturers’ Views On Culture Promotion Strategies

Table 4.28

*Entrepreneurship lecturers’ views on culture promotion strategies*

<table>
<thead>
<tr>
<th>Cases</th>
<th>Emerging theme</th>
<th>Emerging subtheme</th>
<th>Substantiating statements</th>
</tr>
</thead>
</table>
| 1     | Lecturers in entrepreneurship programmes and courses | Outreach activities | 1 Resource constraints for community entrepreneurship  
 2. Fair days  
 2. Few grant funded researches in communities |
| 2     | Lecturers in business and economics disciplines | Campus based culture promotion activities | 1 Presentations at business plan competitions  
 2. Motivational speeches by invited guest speakers |
| 3     | Lecturers who coordinated extra curricula activities | Centre for students services | 1 Resource mobilisation by groups of lecturers and students  
 2. Resource constraints for centres that coordinates development of business plans by students |
| 4     | Lecturers in sciences and technical disciplines | Outreach and consultancy services | 1. Little support for outreach activities in local authorities’ programmes.  
 2. Consultancy services to local SMEs, small holder farmers  
 3. Exhibitions of innovations at fairs and expos |
| 5     | Lecturers in Arts, Social Sciences disciplines | Community outreach activities | 1. Art and music exhibitions  
 2. Resource constraints for community training programmes  
 3. Short courses for school leavers  
 4. No funding to support partnership with government and NGOs in community capacity development activities. |

Source: Author (2018).

Data in table 4.28 show that lecturers from various disciplines were active in culture promotion activities. Themes on culture promotion, therefore, not only emerge from entrepreneurship lecturers but from lecturers in business and economics disciplines, sciences, technical, Arts, Social Sciences programme and from lecturers who coordinated extra curricula activities. These
were verified with records of activities that were availed. Emerging themes show a range of strategies that lecturers engaged in. These were outreach activities; campus based cultural activities, consultancy work and participation in student services activities. Lecturers’ views show prevalence of resource constraints for community outreach projects, training programmes and funding to support strategic partnerships for community capacity development.

4.5.4: Students’ Opinions on Culture Promotion Activities.

Table 4.29

Students’ opinions on culture promotion activities: n=235

<table>
<thead>
<tr>
<th>Activity</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Degree programmes conduct regular interdisciplinary cultural activities on venture creation.</td>
<td>86</td>
<td>37</td>
<td>148</td>
<td>63</td>
</tr>
<tr>
<td>B Degree programmes organise technology commercialisation activities</td>
<td>128</td>
<td>54</td>
<td>107</td>
<td>46</td>
</tr>
<tr>
<td>C Degree programmes organise staff and students for outreach activities on supporting SMEs</td>
<td>174</td>
<td>74</td>
<td>61</td>
<td>26</td>
</tr>
<tr>
<td>D Degree programmes produce modules/ courses on opportunity searching and creation</td>
<td>201</td>
<td>86</td>
<td>34</td>
<td>14</td>
</tr>
<tr>
<td>E Degree programmes encourage students to search and create opportunities for social entrepreneurship projects</td>
<td>143</td>
<td>61</td>
<td>92</td>
<td>39</td>
</tr>
<tr>
<td>F Degree programmes support teams of students and staff from various departments to form start-ups and spinoffs</td>
<td>51</td>
<td>22</td>
<td>184</td>
<td>78</td>
</tr>
<tr>
<td>G Degree programmes network with government, NGOs, commerce and industry in supporting students to search and create opportunities for business ventures</td>
<td>165</td>
<td>70</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>H Degree programmes have consultancy services for communities pursuing income generation ventures</td>
<td>133</td>
<td>57</td>
<td>102</td>
<td>43</td>
</tr>
<tr>
<td>I Degree programmes have platforms where students network with active entrepreneurs scholars and educators</td>
<td>50</td>
<td>21</td>
<td>185</td>
<td>79</td>
</tr>
<tr>
<td>J Degree programmes promote cultural environments that promote values for searching and creating opportunities</td>
<td>114</td>
<td>49</td>
<td>121</td>
<td>51</td>
</tr>
</tbody>
</table>

Source: Author (2018).
Table 4.29 shows that variables A, C, D, E, F, G and I emerged as outstanding trends with frequencies ranging between 60% and 79%. These were analysed and interpreted next in alphabetical order followed by students’ comments from open ended questionnaire questions and lastly, from interviews with entrepreneurship students. Data in variable (A) show that 63% of students disagreed that degree programmes conducted regular interdisciplinary cultural activities on venture creation. Only 37% agreed. This shows that dispersal of the spirit of business opportunity searching and creation culture by interdisciplinary teams of students was not widely practiced. Data on variable (C) show that 74% of students agreed that degree programmes organised and engaged students in outreach activities that supported SMEs while 26% disagreed. This shows that degree programmes planned activities for students and staff to conduct outreach activities supporting SMEs.

Data on variable (D) show that 86% of students agreed that degree programmes produced modules or courses on opportunity searching and creation while 14% of the students disagreed. This shows that degree programmes promoted the culture of opportunity searching and creation through entrepreneurship courses across academic disciplines. Data on variable (E) show that 61% of students agreed that degree programmes encouraged students to search and create opportunities for social entrepreneurship projects while 39% of the students disagreed. This shows that degree programmes supported culture promotion strategies that led students to social entrepreneurship. Data on variable (F) show that 78% of students disagreed that degree programmes supported teams of students and staff from various departments to form start-ups and spinoffs while 22% of the students agreed. This shows degree programmes’ shortfalls in promoting a culture where students work in interdisciplinary teams to do venture creation
projects. Data on variable (G) show that 70% of students agreed that degree programmes networked with government, NGOs, commerce and industry in supporting students to search and create opportunities for business ventures while 30% of the students disagreed. This confirms that degree programmes utilised external support from government, industry and commerce to generate a culture that highlights self-employment among students. Data on variable (I) show that, 79% of students disagreed that degree programmes had platforms where students networked with active entrepreneurs, scholars and educators while21% of the students agreed. This demonstrates low levels of networking between degree programmes and active entrepreneurs and business practitioners in evolving a culture of business opportunity searching and creation.

4.5.5: Students’ Comments On Culture Promotion Activities.

Table 4.30

*Students’ comments on culture promotion activities*

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited support for student social clubs, business societies</td>
<td>81</td>
<td>34.5</td>
</tr>
<tr>
<td>Ineffective donor driven programmes (only exist on paper)</td>
<td>155</td>
<td>66.0</td>
</tr>
<tr>
<td>Poor coordination of incubators and innovation clubs</td>
<td>106</td>
<td>45.1</td>
</tr>
<tr>
<td>Weak centres and structures for synchronizing faculty activities</td>
<td>147</td>
<td>62.6</td>
</tr>
</tbody>
</table>

Source: Author (2018).

In table 4.30 comments form 66% of students indicate that there was donor driven programmes that only existed on paper. This was confirmed by records available with lecturers. Comments from 62% of students indicate weak structures for synchronizing faculty activities. This shows that curriculum implementation was, to a less extent, driven by culture promotion strategies.
### 4.5.6 Entrepreneurship Students’ Views On Culture Promotion Activities.

Table 4.31

*Entrepreneurship students’ views culture promotion activities*

<table>
<thead>
<tr>
<th>Case</th>
<th>Emerging theme</th>
<th>Emerging subtheme</th>
<th>Substantiating statements</th>
</tr>
</thead>
</table>
| 1    | Activities by students in entrepreneurship courses and programmes | Outreach activities | 1. Networking with local SMEs  
2. Community entrepreneurship researches  
3. Industrial attachment activities  
4. Venture creation and awareness promotions  
5. Campus based small businesses  
5. Lack of funding for ventures |
| 2    | Activities by students in commerce programmes | Activities and fairs and expos | 1. Students represent their departments at national research expos, trade fairs, agricultural shows,  
2. Limited funding for developing mainstream commercial ventures  
3. Limited experiential experiences and mentorship |
| 3    | Activities by students in none business programmes | Outreach activities emerging from core studies | 1. Offering voluntary services in medicine, law tourism and hospitality  
2. Development of products and services for SMEs [Applied chemistry, property development, consultancy in E-business solutions to retailers and small holder farmers] |
| 4    | Activities by students in science, engineering, and ICT disciplines | Activities through university/industry partnerships | 1. Limited input from industries to support students’ activities  
2. Limited students/industry and business collaboration for business incubation |
| 5    | Activities by interdisciplinary groups of students | Activities by student services centres | 1. Fundraising clubs, business societies, 2. Fundraising fairs, business seminars, campus based fund raising activities (selling stationery, fast food, paraphernalia)  
3. Lack of support from local entrepreneurs to turn activities into incubators and start ups |

Source: Author (2018).

Data in the table 4.31 show that themes on culture promotion activities did not only emerge from students in entrepreneurship programmes but also emerged from cases of students from other
disciplines who were active in culture promotion. These were students in commerce programmes, none-business programmes, science, engineering and ICT disciplines. Themes also emerged from activities by interdisciplinary groups of students. These themes were verified by records of past activities availed by students. Themes show a range of culture promotion strategies namely outreach, fairs, expositions, partnerships and student service activities. Students’ views show constraints of lack of funding, experiential experiences, mentorship and input from business and industry.

4.5.7. Synthesis of Findings on Culture Promotion Strategies

The study sought to assess the extent to which universities in Zimbabwe promote entrepreneurship culture to facilitate implementation of entrepreneurship curriculum in degree programmes. Lectures’ opinions on culture promotion show shortfalls in cultivating values for opportunity searching, discovery and creation. These findings confirm Manuere, (2014) results from Zimbabwe that also established ineffective culture dynamics to influence students into entrepreneurship action. Data from all lecturers depict programmes’ shortfalls in synchronising university wide searching and creation of business opportunities. This is in contrast to findings by Kurato (2013) in Europe where synchronised culture promotion strategies curved students’ intentions into business opportunity searching and creation.

Data from lecturers across degree programmes also show inconsistent commitment in promoting culture of opportunity searching and creation across degree programmes. However, results from studies in North Africa show how culture promotion boosted entrepreneurship awareness and intentions. In these case studies, commitment to income generation naturally led students into launching of business ventures (Sheta, 2012; Bawuah, 2014). Data from lecturers also show
programmes’ shortfalls in utilising university, business and industry partnerships in culture promotion. This is contrary to results from universities in Asia where external stakeholders engage students in real life partnerships of supporting courses work activities, special seminars and project financing (Powers, 2013).

Students’ opinions on culture promotion also show programmes’ shortfalls in promoting the spirit of business opportunity searching and creation through interdisciplinary teams. However, findings from a study by Cooney and Murray (2012) in South Africa show how modules on entrepreneurship culture were used as an entrepreneurial spirit promotion strategy to capacitate students into social networks and learn more about opportunity searching and creation. Opinions from students across all disciplines highlight shortfalls in strategy formulation and weak commitment to culture promotion. This is in contrast to practices in USA universities where a study by Vicens and Grullon, (2011) show widespread use of visions and mission statements, involvement of all university staff and resource mobilisation through partnerships with local enterprises

Qualitative data from entrepreneurship lecturers and document reviews depict active student participation in community outreach activities (fairs and expos) and in student support centres. One lecturer said, “We are limited by resource constraints to start up community entrepreneurship programmes”. This is in line with Marriah’s (2012) and Tiene and Chandlar’s (2012) results from USA which show how outreach activities by degree programmes in communities benefited students, academics and local communities through professional counselling and advice on creating business ventures. However, entrepreneurship lecturers’ views show that degree programmes’ shortfalls in building interdisciplinary teams of students to
do venture creation. However, in Europe, Kirby’s (2012) show that teams of entrepreneurship students are effective in building entrepreneurial communities with intentions and values that naturally lead to formation of start-ups. Data from entrepreneurship lecturers indicate a low level of networking between lecturers, active entrepreneurs and business practitioners in business opportunity searching and creation. However, studies from universities in Europe demonstrate how such partnerships opened up venture creation opportunities for students (Debackere, and Veugelers, 2014).

Qualitative data from entrepreneurship students and document reviews studies depict limited opportunities for networking with lecturers and entrepreneurs in opportunity searching and creation. However, some case studies conducted in Zimbabwe show culture promotion platforms such as technology innovation centres, technology and innovation outreach and extra-curricular activities (Mudamburi, 2013). These activities promoted technopreneurship spirit and community entrepreneurship. Data from entrepreneurship students show a range of culture promotion activities conducted in degree programmes as outreach. One student said, “We do community entrepreneurship researchers and venture creation promotions.” These findings are similar to findings from cases in India where entrepreneurship spirit was raised through degree programmes’ collaboration in community outreach activities (Powers, 2013). Views from entrepreneurship students also show that opportunity searching, discovery and creation were constrained by limited funding, experiential activities and mentorship from industry and business. However, in developed countries cultural environments in universities were manipulated to influence academic activities and students’ students’ intentions towards entrepreneurship (Marriah, 2012; Tiene and Chandlar 2012).
4.6. Evaluation of Competence Development Strategies

4.6.1: Lecturers’ Opinions on Competence Development Strategies.

Table 4.32

*Lecturers’ opinions on competence development strategies: n=94*

<table>
<thead>
<tr>
<th>Strategy</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  Research oriented activities that develop competencies for opportunity discovery and creation among students</td>
<td>87</td>
<td>93</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>B  Opportunity searching and creation activities that guide students into formation of start-ups</td>
<td>15</td>
<td>16</td>
<td>79</td>
<td>84</td>
</tr>
<tr>
<td>C  Engaging active entrepreneurs in mentoring students in searching and creating business opportunities</td>
<td>13</td>
<td>14</td>
<td>81</td>
<td>86</td>
</tr>
<tr>
<td>D  Examining students through business and social entrepreneurship projects e.g., showbiz</td>
<td>79</td>
<td>84</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>E  Programmes benchmark and measure outcomes from opportunity searching and creation</td>
<td>89</td>
<td>95</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>F  Programmes develop opportunity searching and creation competencies at each academic level</td>
<td>2</td>
<td>2</td>
<td>92</td>
<td>98</td>
</tr>
<tr>
<td>G  Programmes have human resources activities that support lecturers to practice in actual company formation.</td>
<td>6</td>
<td>6</td>
<td>88</td>
<td>94</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.32 show that, variables A, B, D, E, F and G emerged as outstanding trends with frequencies ranging up to 95%. These were analysed and interpreted in alphabetical order followed by lecturers’ comments from open ended questions and lastly data from interviews with entrepreneurship lecturers. Data in variable (A) show that 93% of lecturers agreed that there were research oriented activities that developed competencies for opportunity discovery and creation among students while 7% of the lecturers disagreed confirming that degree programmes applied research and development strategies that developed entrepreneurial competencies. Data in variable (B) shows that 84% of students objected that degree programmes offered opportunity searching and creation activities that guided students into formation of start-ups while 16% of the
lecturers agreed, demonstrating shortfalls of degree programmes in terms of creating opportunities for start-ups bias. Data on variable (C) show that 86% of lecturers disagreed that degree programmes engaged active entrepreneurs in mentoring students in searching and creating business opportunities while 14% of the lecturers agreed. This confirms degree programmes’ shortfalls in utilising local entrepreneur expertise in mentoring students into practical venture searching and creation.

Data on variable (D) show that 84% of lecturers agreed that degree programmes examined students using entrepreneurial projects while 16% of the lecturers disagreed. This shows that degree programmes tracked students’ business ventures and used them as examining tools. Data on variable (E) show that 95% of lecturers agreed that programmes benchmarked and measured students’ outcomes from opportunity searching and creation activities while 5% of the lecturers disagreed, confirming that degree programmes defined and monitored desired entrepreneurship outcomes from students’ learning activities. Data in variable (F) show that 98% of lecturers disagreed that programmes developed opportunity searching and creation competencies at each academic level while 2% of the lecturers agreed confirming programmes’ shortfalls in strategising the curriculum in order for students to systematically acquire competencies progressively. Data on variable (G) show that 94% of lecturers disagreed that programmes had human resources activities that supported lecturers to practice in actual company formation situations while 6% of the lecturers agreed. This confirms degree programmes’ shortfalls in capacitating lecturers to acquire experience in actual business formation and development.
4.6.2. Lecturers’ Additional Comments on types of Competences

Table 4.33

*Lecturers’ comments on types of competences*

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting, marketing, management</td>
<td>84</td>
<td>89.4</td>
</tr>
<tr>
<td>Tourism and hospitality management, developing and marketing of tourism products</td>
<td>33</td>
<td>35.1</td>
</tr>
<tr>
<td>Economics, business formation and growth skills</td>
<td>51</td>
<td>54.3</td>
</tr>
<tr>
<td>ICT, E-business, financial engineering.</td>
<td>44</td>
<td>46.8</td>
</tr>
<tr>
<td>Research and development, product design, process innovation</td>
<td>51</td>
<td>54.3</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.33 shows distribution of categories of competencies with the number of lectures who contributed comments in each category. Comments from 90% of lecturers covered accounting, marketing, and management. Comments from 54% lectures covered competencies of product design and process innovation. Comments from 54% of lecturers covered competencies of economics, business formation and growth. This shows that the curriculum was more business oriented than entrepreneurial research and innovation.
4.6.3: Lecturers and Students’ Opinions on Competence Development Strategies

Table 4.34

Lecturers and students’ opinions on competence development strategies: n=329

<table>
<thead>
<tr>
<th>Entrepreneural attributes</th>
<th>Very poor</th>
<th>Poor</th>
<th>Good</th>
<th>Very good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Competences for searching and creating business opportunities</td>
<td>10 3 48 15 151 46</td>
<td>93 28 27 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Knowledge generation and transfer into company formation</td>
<td>3 1 53 16 146 45</td>
<td>93 28 34 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Commercialisation of business ideas</td>
<td>2 1 66 20 185 56</td>
<td>58 18 18 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Creating opportunities for developing business technologies</td>
<td>4 1 57 17 144 44</td>
<td>87 27 37 11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Creating opportunities for growing existing businesses ventures</td>
<td>6 2 85 26 125 38</td>
<td>96 29 17 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Taking risks in searching and creating business opportunities</td>
<td>2 1 10 31 160 49</td>
<td>47 14 18 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G Persistence in searching and creating business opportunities</td>
<td>6 2 89 27 181 55</td>
<td>42 13 11 3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.34 show ratings by lecturers and students on each of the four attributes areas asked. It seems degree programmes were rated as good in the development of all the given attributes. However, the next section provides a detailed analysis and interpretation of attributes. Data in variable (A) show that 46% of students and lecturers rated degree programmes as good. It also shows that 28% rated the programmes as very good and 8% as excellent in developing competences for searching and creating business opportunities while 15% of lecturers and students rated the programmes as poor and 3% as very poor. This confirms that degree programmes had curricula that developed opportunity searching, discovery and creation skills. Data in variable (B) show that 45% of lecturers and students rated degree programmes as good,
28% lecturers as very good while 10% lecturers rated the programmes as excellent in facilitating knowledge transfer into company formation. Data shows that 16% rated the programmes as poor and 1% as very poor. This confirms that degree programmes developed curricula that generated and transferred knowledge acquired by students into venture creation. Data in variable (C) show that 56% of lecturers and students rated their degree programmes as good, 18% and 5% of the students and lecturers rated the programmes as excellent in capacitating students to commercialise business ideas while 20% rated the programmes as poor and 1% as very poor. This confirms that degree programmes had curriculum that capacitated students to commercialise their ideas into business formation.

Data in variable (D) show that 44% of students and lecturers rated their degree programmes as good, 27% as very good and 11% as excellent in facilitating creation of opportunities for developing business technologies while 17% rated the programmes as poor and 1% as very poor. This confirms that degree programmes had curricula that developed competences for starting new businesses. Data in variable (E) show that 38% of students and lecturers rated their degree programmes as good, 29% as very good and 5% as excellent in capacitating students in creating opportunities for growing existing businesses ventures while 26% rated the programmes as poor and 2% as very poor. This confirms that degree programmes had curricula with competences on growth of enterprises. Data in variable (F) show that 49% of students and lecturers rated their degree programmes as good, 14% as very good and 5% as excellent in capacitating students to take risks in searching and creating business opportunities while 31% of the students and lecturers rated the programmes as poor and 1% as very poor. This confirms that degree programmes had curricula that developed risk taking attributes when searching and creating
business opportunities. Data in variable (G) show that 55% of students and lecturers rated their degree programmes as good, 13% as very good and 3% as excellent in developing attributes of persistence in searching and creating business opportunities while 27% of the lecturers and students rated the programmes as poor and 2% as very poor. This shows that degree programmes had curricula that were effective in developing attributes of persistence.

4.6.4. Lecturers and Students’ Comments on Effectiveness of Competence Development.

Table 4.35

*Lecturers and students’ comments on effectiveness of competence development*

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venture creation and growth management</td>
<td>112</td>
<td>34.3</td>
</tr>
<tr>
<td>Opportunity recognition, risk taking, aggressiveness</td>
<td>97</td>
<td>29.5</td>
</tr>
<tr>
<td>Innovativeness, problem solving, situation analysis.</td>
<td>132</td>
<td>40.1</td>
</tr>
<tr>
<td>Businesses leadership and management</td>
<td>174</td>
<td>52.9</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.35 shows that majority of lecturers and students did not supply comments as shown by low frequencies of lecturers who commented in each category. Comments came from 53% of lecturers and students indicated that universities developed attributes of business leadership and management attributes.
### 4.6.5. Entrepreneurship Lecturers’ Views On Competence Development Strategies.

Table 4.36

<table>
<thead>
<tr>
<th>Cases</th>
<th>Emerging themes</th>
<th>Emerging sub-themes</th>
<th>Substantiating statements</th>
</tr>
</thead>
</table>
| 1     | Lecturers in entrepreneurship degree programmes teach entrepreneurship courses, supervise research and internships. | 1. Principles of entrepreneurship  
2. Applied entrepreneurship  
2. Limited practical exposure  
3. Competences on opportunity recognition, risk taking, aggressiveness leading to start-ups.  
4. Limited emphasis on venture creation |
| 2     | Lecturers in entrepreneurship degree programmes coordinate entrepreneurship activities | 1. Innovation  
2. Technopreneurship  
3. Venture creation  
4. Entrepreneurship research | 1. Degree programmes are weak in the provision of practical mentorship  
2. Lack of funding for business start-ups and incubation  
3. Lack of venture creation orientation during attachment programmes |
| 3     | Commerce lecturers coordinate entrepreneurial activities                           | 1. Small businesses management  
2. Project management | 1. Managing small businesses at campus develop competences  
2. Activities are not sufficient to immediately trigger small business formation  
3. Activities are insufficient for students to create and manage businesses straightaway after graduation |
| 4     | Activities by none business lecturers (science, engineering, agriculture and technical disciplines) | 1. Technology development and transfer | 1. Visiting local industrial sites.  
2. Researching on practical cases  
3. Practical venture creation  
4. Mentoring innovation projects.  
5. Designing/developing products/services from labs. |
| 5     | Lecturers facilitate extra-curricular activities with groups of students on voluntary bases | 1. Entrepreneurial attributes | 1. Practical business formation and growth activities.  
2. Limited emphasis on sustained growth into self-employment  
3. Some projects remain on paper (little practical support) |

Source: Author (2018).

Data in table 4.36 show that themes did not only emerge from entrepreneurship lecturers but from lecturers in commerce who coordinated entrepreneurial activities and from lecturers in none
business programmes who facilitated extra-curricular activities in groups of students. The data was verified by records of activities from previous semesters. Emerging subthemes show, business planning, start-ups, growth, technology development and transfer skills that emanated from the themes. However, lecturers’ views show that degree programmes had shortfalls in providing practical experiences and venture creation. They also show shortfalls in capacitating students to immediately form small business ventures after studies.


Table 4.37

<table>
<thead>
<tr>
<th>Case</th>
<th>Emerging themes</th>
<th>Emerging subthemes</th>
<th>Substantiating comments</th>
</tr>
</thead>
</table>
| 1    | Students in entrepreneurship degree programmes | 1. Knowledge and skills on basic principles of entrepreneurship  
2. Venture creation skills  
3. Hands on experiences from industrial attachments | 1. Lecturers and assignments only provide theory about entrepreneurship  
2. Venture creation lack support of funding  
3. Industrial attachments do not teach business formation |
| 2    | Students doing entrepreneurship courses while housed in commerce disciplines | 1. Knowledge about business formation, risk taking, managing and marketing of small businesses. | 1. Lack of practical activities  
2. Little opportunities for venture creation, incubation and start-ups |
| 3    | Students doing entrepreneurship courses while housed in technical and engineering disciplines | 1. Knowledge and skills on innovation, research and development  
2. Knowledge and skills on opportunity recognition | 1. Lack of support for commercialisation of innovations from research.  
2. Limited funding for developing technopreneurship competencies  
3. Bias towards theory than practical research and development |
| 4    | Students doing entrepreneurship activities in groups | 1. Public relations, marketing and personal selling skills.  
2. Networking skills.  
3. Opportunity recognition skills | 1. Limited university support [capital and expertise support from lecturers]  
2. Limited support for commercialisation of products/services.  
3. No support for business start-ups and growth |

Source: Author (2018).
Data in table 4.37 show that themes did not only come from students in entrepreneurship degree programmes and courses but also from commerce, science and engineering students who did entrepreneurship courses. Sub-themes show strategies that yielded knowledge and skills on entrepreneurship, venture creation, business development, innovation research and development of entrepreneurship attributes. This was verified by their course outlines and previous assignments. However, students’ views show that degree programmes had no provision for incubation, start-ups and commercialisation.

**4.6.7. Lecturers’ Opinions on Student Support**

Table 4.38

*Lecturers’ opinions on student support strategies: n=94*

<table>
<thead>
<tr>
<th>Strategy</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  Start-ups and business incubation programmes that transform potential</td>
<td>72</td>
<td>77</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>ventures into perfection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B  Engaging experts from industry/commerce to mentor students to create</td>
<td>16</td>
<td>17</td>
<td>72</td>
<td>83</td>
</tr>
<tr>
<td>and grow businesses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C  Action oriented and experiential learning to stimulate searching and</td>
<td>31</td>
<td>33</td>
<td>63</td>
<td>67</td>
</tr>
<tr>
<td>creation of business opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D  Mentoring students’ initiatives into viable business ventures</td>
<td>50</td>
<td>53</td>
<td>44</td>
<td>47</td>
</tr>
<tr>
<td>E  Centres for directing creation of business opportunities at universities and in communities</td>
<td>72</td>
<td>77</td>
<td>22</td>
<td>23</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.38 shows that variables A, B, C, D and E, emerged as outstanding trends with frequencies ranging up to 83%. These were analysed and interpreted in alphabetical order followed by lecturers’ comments from questionnaire open ended questions. Data on variable (A) show that 77% of lecturers agreed that their degree programmes provided start-ups and business
incubation activities designed to transform potential ventures into perfection while 23% of the lecturers disagreed. This confirms that degree programmes supported students to transform their ideas into business creation through incubation and start-ups. Data on variable (B) shows that 83% of lecturers disagreed that degree programmes engaged experts from industry and commerce to mentor students to create and grow businesses while 17% of the lecturers agreed. This confirms degree programmes’ shortfalls in harnessing expertise from industry and commerce to support students to start and grow businesses. Data on variable (C) show that 67% of lecturers disagreed that degree programmes used action oriented and experiential learning to stimulate searching, discovery and creation of business opportunities while 33% of the lecturers agreed. This shows that teaching strategies in degree programmes were not action oriented to practically engage students in searching and creating business opportunities.

Data on variable (D) show that 53% of lecturers agreed that degree programmes provided mentoring services for students to transform their initiatives into viable business ventures while 47% of the lecturers disagreed. This confirms that to a little extent degree programmes mentored students from idea generation into business creation. Data on variable (E) show that 77% of lectures agreed that universities had centres for directing creation of business opportunities at universities and in communities while 23% of the lecturers disagreed. This confirms that degree programmes capacitated students through focal centres for coordinating entrepreneurship activities in universities and communities.
4.6.8. Lecturers’ Additional Comments on Student Support

Table 4.39

*Lecturers’ comments on student support strategies*

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited student support from industry and SMEs</td>
<td>58</td>
<td>61.7</td>
</tr>
<tr>
<td>Students’ participate in national business association activities</td>
<td>58</td>
<td>61.7</td>
</tr>
<tr>
<td>Limited campus based small businesses run by students</td>
<td>62</td>
<td>66.0</td>
</tr>
<tr>
<td>Incubators and start-ups funded by GEEP and UNDP</td>
<td>36</td>
<td>38.3</td>
</tr>
<tr>
<td>Industrial attachments, practicum, internships</td>
<td>70</td>
<td>74.5</td>
</tr>
<tr>
<td>Business planning, formation and growth competitions</td>
<td>53</td>
<td>57.0</td>
</tr>
<tr>
<td>Limited access to small business financing</td>
<td>71</td>
<td>75.5</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.39 shows distribution of positive and negative comments. Positive comments from 75% of lecturers show that universities used industrial attachments and internships. Comments from another 75% of lecturers show that universities used business planning, formation and growth competitions. Comments from 62% of lecturers show that students’ participated in national business associations. Negative comments from 76% of lecturers who indicated limited access to small business financing. Comments from 66% of lecturers indicated limited campus based small businesses run by students. Comments from 62% of lecturers indicated limited student support from industry and commerce.
4.6.9. Students’ Opinions on Student Support

Table 4.40

Students’ opinions on student support strategies: n=235

<table>
<thead>
<tr>
<th>Support</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Promoting innovation and technology development from knowledge and</td>
<td>124</td>
<td>53</td>
<td>111</td>
<td>47</td>
</tr>
<tr>
<td>skills generated by lecturers and students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Programmes encourage students to create science/tech innovations from</td>
<td>44</td>
<td>19</td>
<td>191</td>
<td>81</td>
</tr>
<tr>
<td>labs/classrooms into concrete projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Student support centres for innovation and business development</td>
<td>50</td>
<td>21</td>
<td>185</td>
<td>79</td>
</tr>
<tr>
<td>D Start-ups activities for Social Science, Arts and Humanities students</td>
<td>69</td>
<td>29</td>
<td>166</td>
<td>71</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.40 and graph 15 show that variables A, B, C and D emerged as major trends with frequencies ranging up to 81%. These were analysed and interpreted next in alphabetical order followed by students’ comments from questionnaire open ended questions. Data in variable (A) show that 53% of students agreed that degree programmes promoted innovation and technology development from knowledge and skills generated by lecturers and students while 47% of the students disagreed. These findings demonstrate that degree programmes did not have curricula on innovation and technology venture creation. Data on variable (B) show that 81% of students disagreed that programmes encouraged students to create science/tech innovations from labs and classrooms into concrete projects while 19% of the students agreed. This shows that programmes had shortfalls in capacitating students to transform ideas generated from classrooms and labs into science/ tech driven ventures. Data in variable (C) show that 79% of the students disagreed that degree programmes were supported by innovation and technology centres for business development while 21% of the students agreed. This shows that degree programmes did not have technology and business development centres to support students to transform knowledge and
skills into business ventures. Data in variable (D) show that 71% of students disagreed that universities provided start-ups in Social Science, Arts and Humanities disciplines while 29% of the students agreed. This confirms weaknesses in encompassing start-ups services to none business and programmes.

4.6.10. Students’ Comments on Support Strategies

Table 4.41

Students’ comments on support strategies

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshops on business formation and growth</td>
<td>66</td>
<td>28.1</td>
</tr>
<tr>
<td>Too much focus on employee preparation than self-employment</td>
<td>82</td>
<td>34.9</td>
</tr>
<tr>
<td>Too much theory oriented learning lacking experiential support services</td>
<td>145</td>
<td>61.7</td>
</tr>
<tr>
<td>Limited seed capital to commercialise students’ initiatives</td>
<td>114</td>
<td>48.5</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.41 show positive comments that came from only 28% lecturers who indicated student support through workshops on business formation and growth. Comments from 62% of lecturers indicated that there was theory oriented learning that lacked experiential support services. This shows that support strategies were less experiential.
4.6.11. Lecturers and Students’ Opinions on Support for Knowledge Transfer

Table 4.42

*Lecturers and students’ opinions on support for knowledge transfer: n=329*

<table>
<thead>
<tr>
<th>Support</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Attaching students to enterprises that provide experiences in business opportunities that students are pursuing</td>
<td>308</td>
<td>94</td>
<td>21</td>
<td>6</td>
</tr>
<tr>
<td>B Commercialisation of products and services from students’ innovations</td>
<td>61</td>
<td>19</td>
<td>268</td>
<td>81</td>
</tr>
<tr>
<td>C Programmes organise simulated business enterprises run by lecturers and students.</td>
<td>145</td>
<td>44</td>
<td>184</td>
<td>56</td>
</tr>
<tr>
<td>D Programmes promote innovation and technology development from researches generated by lecturers and students</td>
<td>151</td>
<td>46</td>
<td>178</td>
<td>54</td>
</tr>
<tr>
<td>E Venture creation studies/courses for all degree programmes</td>
<td>236</td>
<td>72</td>
<td>93</td>
<td>28</td>
</tr>
<tr>
<td>F Venture creation exchange programmes with foreign universities</td>
<td>227</td>
<td>69</td>
<td>102</td>
<td>31</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.42 and graph 16 show that variables A, B, C, D, E and F emerged as major trends with frequencies ranging up to 94%. These were analysed and interpreted in alphabetical order followed by lecturers’ and student’ comments from open ended questions and interviews from lecturers. Data in variable (A) show that 94% of lecturers and students agreed that students were attached to enterprises that provided experiences for business opportunities those students were pursuing while 6% of the lecturers and students disagreed. This shows that degree programmes offered support services that linked students to enterprises with opportunities that students pursued. Data in variable (B) show that 81% of students and lecturers objected that degree programmes provided opportunities for commercialising products and services from students’ innovations while 19% of the students and lecturers agreed. This demonstrates that support services in degree programmes did not lead students into product and service commercialisation. Data on variable (C) show that 56% of lecturers and students disagreed that programmes organised simulated business enterprises run by lecturers and students while 44% of the students
and lecturers agreed. This confirms absence of opportunities for students to start and run simulated business enterprises with the assistance of lecturers.

Data in variable (D) show that 54% of students and lecturers disagreed that programmes promoted innovation and technology development from researches generated by lecturers and students while 46% of the students and lecturers agreed. This demonstrates programmes’ weaknesses in transforming researches into innovation and technology ventures. Data on variable (E) show that 72% of lecturers and students agreed that there were venture creation studies or courses offered across all degree programmes and faculties while 28% of the students and lecturers disagreed. This confirms that universities supported students through a venture creation curriculum across degree programmes. Data in variable (F) show that 69% of lecturers and students agreed that degree programmes participated in venture creation exchange programmes with foreign universities while 31% of the students and lecturers disagreed. This shows that degree programmes facilitated the curriculum on venture creation through engaging students with programmes in foreign universities.
4.6.12. Lecturers and Students’ Comments on Support for Knowledge Transfer

Table 4.43

*Lecturers and students’ comments on support for knowledge transfer*

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bias towards knowledge application in established processes than venture creation and innovation</td>
<td>224</td>
<td>68.1</td>
</tr>
<tr>
<td>Limited support services for students pursuing entrepreneurship</td>
<td>240</td>
<td>72.9</td>
</tr>
<tr>
<td>Limited follow up on graduate entrepreneurs</td>
<td>113</td>
<td>34.3</td>
</tr>
<tr>
<td>Limited university/alumni partnerships to support student entrepreneurship</td>
<td>115</td>
<td>35.0</td>
</tr>
<tr>
<td>Limited student support from local SMEs</td>
<td>112</td>
<td>34.0</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.43 shows that comments from 73% of lecturers and 73% of students indicated that there were limited practical support services for students pursuing entrepreneurship. Comments from 68% of lecturers show that there was bias towards knowledge application in established processes at the expense of venture creation and innovation.
### Table 4.44: Entrepreneurship lecturers’ views in support for venture creation

<table>
<thead>
<tr>
<th>Case</th>
<th>Emerging theme</th>
<th>Emerging subtheme</th>
<th>Substantiating statements</th>
</tr>
</thead>
</table>
| 1    | Lecturers in entrepreneurship programmes and courses | Support from entrepreneurship programmes and courses | 1. Written assignments, tutorials, projects lay foundation for building knowledge on enterprising  
2. Industrial attachments expose students to experiences in business and industry  
3. Venture creation studies capacitate students to form companies  
4. Limited funding for start-ups and incubators |
| 2    | Lecturers in business and economics programmes | Hands on business practices | 1. Knowledge and skills on accounting, finance, marketing, business management empower students to start and grow small businesses  
2. Industrial attachments provide hands on entrepreneurship experiences  
3. Limited venture creation support from business and industry |
| 3    | Lecturers engaged in extra-curricular activities | Managing small businesses at campus | 1. Students join business associations  
2. Limited access to micro financing of small businesses  
2. Projects fail to take off due to lack of capital  
3. Limited collaboration among lecturers from different departments |
| 4    | Lecturers in science and technical programmes | Support for technology and innovation | 1. Support to groups of students doing research in mobile applications  
2. Very few projects get into commercialisation  
3. Support to students pursuing chemical process innovations  
4. Lack of mentoring frameworks from industry |
| 5    | Lectures in Arts, Social Sciences programmes | Limited entrepreneurship initiatives | 1. Support for students doing community outreach activities  
2. Little commercialisation of ventures |

Source: Author (2018).
Table 4.44 shows that themes did not only emerge from lecturers in entrepreneurship degree programmes and courses but from lecturers in business, economics, sciences, technical, arts and social science programmes who were active in supporting students. Themes show lecturers’ support for venture creation provided through academic work, university businesses and technology based projects. These themes were verified by records of activities availed by lecturers. However, lecturers’ views show constraints of limited funding for start-ups and incubators. Lectures also show lack of mentorship from business and industry and commercialisation of projects.

4.6.14. Students’ Opinions on Strategies for Capacity Development

Table 4.45

Students’ opinions on programme’s effectiveness in capacity development: n=235

<table>
<thead>
<tr>
<th>Competence area</th>
<th>Very poor</th>
<th>Poor</th>
<th>Good</th>
<th>Very good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Knowledge generation for searching and creating business opportunities</td>
<td>F 9</td>
<td>% 4</td>
<td>% 44</td>
<td>% 19</td>
<td>% 101</td>
</tr>
<tr>
<td>B Generating opportunities for producing new goods and services</td>
<td>F 6</td>
<td>% 3</td>
<td>% 78</td>
<td>% 33</td>
<td>% 102</td>
</tr>
<tr>
<td>C Generating opportunities for creating self-employment ventures</td>
<td>F 1</td>
<td>% 1</td>
<td>% 35</td>
<td>% 15</td>
<td>% 115</td>
</tr>
<tr>
<td>D Discovery and creation of small business opportunities.</td>
<td>F 4</td>
<td>% 2</td>
<td>% 34</td>
<td>% 14</td>
<td>% 93</td>
</tr>
<tr>
<td>E Commercialisation of students’ researches</td>
<td>F 1</td>
<td>% 1</td>
<td>% 49</td>
<td>% 21</td>
<td>% 91</td>
</tr>
</tbody>
</table>

Source: Author (2018).

Table 4.45 show ratings by students on each of the four competence areas asked. All competence areas given were rated as good by majority of students. The next section presents a detailed
analysis and interpretation of students’ opinions followed by data from interviews administered to entrepreneurship students.

Ratings on competence (A) assessed how degree programmes generated knowledge for searching and creating business opportunities. Data show that 43% of students rated their degree programmes as good followed by 22% students who rated the programmes as very good while 12% students rated the programmes as excellent. On the contrary, 19% of the students rated the programmes as poor and 4% as very poor. This confirms that degree programmes had curricula that developed students’ potential into formation of small businesses. Ratings on competence (B) assessed the extent to which degree programmes generated opportunities for producing new goods and services. Data show that 43% of students rated the programmes as good 4% of the students as very good and 17% of students as excellent. The table shows that 33% of students rated the programmes as poor while 4% of the students rated them as very poor. This confirms that degree programmes had curricula that led students into searching, discovery and creation of new goods and services. Ratings on competence (C) assessed the extent to which degree programmes generated opportunities for creating self-employment ventures. Data show that 49% of students rated programmes as good 17% of students as very good and 18% of the students as excellent. On the contrary, 15% of the students rated the programmes as poor while 1% students rated them as very poor. This confirms that degree programmes had curricula that guided students creating self-employment enterprises.

Ratings on competence (D) assessed the extent to which degree programmes provided knowledge and experiences on discovery and creation of opportunities for small businesses. Data
show that 40% of students rated the programmes as good, 19% of students as very good and 25% of the students as excellent. On the contrary, 14% of the students rated the programmes as poor while 2% of the students rated them as very poor. This confirms that degree programmes had curricula that led students into searching and creating opportunities for small businesses. Ratings on competence (E) assessed the extent to which degree programmes offered opportunities for students to commercialise their research outputs. Data show that 39% of students rated the programmes as good, 30% of students as very good and 9% of students as excellent. On the contrary, 21% of the students rated the programmes as poor and 1% of the students as very poor. This confirms that degree programmes had curricula that capacitated students to commercialise their research outputs into business ventures.

4.6.15. Students’ Comments on Strategies for Capacity Development

Table 4.46

<table>
<thead>
<tr>
<th>Comment category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modules/courses cover entrepreneurship theory instead of practice</td>
<td>194</td>
<td>82.6</td>
</tr>
<tr>
<td>Overemphasis on development of theoretical concepts than development of enterprises</td>
<td>147</td>
<td>62.3</td>
</tr>
<tr>
<td>Limited support for commercialisation of lab projects/products</td>
<td>102</td>
<td>43.4</td>
</tr>
<tr>
<td>Overemphasis on written assignments, and examinations than practical assessments</td>
<td>152</td>
<td>64.7</td>
</tr>
</tbody>
</table>

Source: Author (2018).

In table 4.46 all comments given were negative. Comments from 83% of students indicated that modules/courses cover entrepreneurship theory instead of practice. Comments from 65% of students indicated an over-emphasis on written assignments and examinations instead of
practical assessments. Comments from 62% of students indicated an over-emphasis on development of theoretical concepts than development of enterprises. This was confirmed with modules and assignments written over the previous semesters.
### 4.6.16. Entrepreneurship Students’ Views in Support for Start-Ups

**Table 4.47**

*Entrepreneurship students’ views on support for start-ups*

<table>
<thead>
<tr>
<th>Case</th>
<th>Emerging theme</th>
<th>Emerging subtheme</th>
<th>Substantiating comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Students in entrepreneurship programmes</td>
<td>Support for competencies to start and grow small business ventures</td>
<td>1. Industrial attachments, venture creation studies, researches done during industrial attachments 2. Lack of funding for ventures 3. Lack of mentorship 4. Limited opportunities for practical experiences in SMEs development</td>
</tr>
<tr>
<td>2</td>
<td>External support</td>
<td></td>
<td>1. Business seminars attended by students and lecturers open up opportunities for venture creation 2. Limited university/industry networking 3. Limited practical support form stakeholders to mentor students 4. We have theoretical knowledge but cannot apply it due lack of collaboration between universities, industry and financial institutions</td>
</tr>
<tr>
<td>3</td>
<td>Students in entrepreneurship courses</td>
<td>Support in the form of learning about business incubators, start-ups, and venture creation from course work</td>
<td>1. Lack of practical activities 2. Too much theory 3. Lack of university support for incubation (space, equipment)</td>
</tr>
<tr>
<td>4</td>
<td>Students pursue venture creation activities while in their respective programmes</td>
<td>Support for technology, innovation and venture creation initiatives</td>
<td>1. Developed solar street lights, beverages, detergents, insecticides 2. Property development projects and risk management solutions 3. Lack of support to venture into mainstream businesses (developed mobile communication solutions, music software applications but lack support to break through into the market) 4. Students in medicine, law and engineering benefit from internship but lack support to do start-ups, we lack support to commercialise knowledge into products and services</td>
</tr>
<tr>
<td>5</td>
<td>Interdisciplinary teams of students run small business ventures</td>
<td>Donor driven programmes support initiatives from individual students and student services centres</td>
<td>1. Active activities were from commerce, economics and business studies students 2. Programmes voluntary, less formal 3. Projects die when a current of students graduate</td>
</tr>
</tbody>
</table>

Source: Author (2018).
Table 4.47 show that themes did not only emerge from students in entrepreneurship programmes, in courses and but also students pursuing venture creation activities while in their respective programmes and students who ran small business ventures while in interdisciplin ary groups. These were confirmed by records of activities that were availed by students. A range of internal and external support strategies emerged as subthemes. However, substantiating comments by students show constraints of lack of funding, experiential learning, opportunities for networking and university support in the form of facilities for incubation and start-ups.

4.6.17. Syntheses of Findings on Competence Development Strategies

Data from the quantitative inquiry show that lecturers’ opinions on competence development strategies demonstrate the programmes’ shortfalls in creating opportunities for start-ups. These results are similar to findings from cases in East Africa where Pohle and Grullon (2013) established limited participation of lecturers in planning start-ups for real business creation. Lecturers’ opinions also depict programmes’ shortfalls in harnessing local entrepreneur expertise for mentoring students into opportunity searching and creation. These differ from results from cases in UK and Norway where entrepreneurs from various fields mentored students through start-ups. Results from UK in particular show how social science degree programmes organized start-ups of social events while in Norway social science programmes collaborated with the public sector and NGOs in start-ups. Similarly, entrepreneurs in Arts disciplines supported Arts degree programmes through start-ups (Halac and Bulut, 2012). Lecturers’ opinions depict programmes’ shortfalls in capacit ating students to acquire competencies progressively. This differs from results from cases in UK that show curriculum configurations designed to meet
competence needs of all students (Hannan, 2013). Opinions from lecturers across degree programmes depict shortfalls in making lecturers experience situations of actual business formation and development. However, results from universities in East Africa depict configurations of capacitating strategies that include aspiring entrepreneurs and university students (Faltin 2010; Nwangwu, 2012). Lectures’ opinions also show shortfalls in harnessing expertise from industry and commerce to support creation and growing of business ventures by students. These findings are different from results from cases in Norway where science, technology and engineering programmes collaborated with professionals from business and industry to support students develop business plans and start-ups (Deborah, 2012). Lecturers’ opinions also show that teaching strategies in degree programmes did not practically engage students in searching and creating business opportunity. This depict strategic shortfalls when compared to practices in universities in USA where findings by Mayhew, Simonoff, Baumol and Wiesenfeld and Klein (2012) that show how a business development centres practically engaged students in developing products for export markets.

Quantitative data from students show that students’ opinions from across degree programmes demonstrate that support services in degree programmes did not lead students into product and service commercialisation. However, studies from universities in Germany show knowledge transfer strategies that mentored students into community training, consultancy, team building. This helped students create start-ups, supported by communities (Meyer, 2014). Students’ opinions also depict limited opportunities for students to create and run simulated businesses with the assistance of lecturers. This is different to results from cases in France where degree programmes curricula that offered opportunities for simulated enterprises (Lynada and Vina de
Students’ opinions on student support show programmes’ shortfalls in providing experiences for innovation and technology venture creation. This is contrary to results from cases in USA where centres in collaboration with business and industry, helped students from all programmes to set up innovation and technology ventures and to research and develop new products and services (Wolcott and Lippitz, 2010). Students’ opinions also demonstrate programmes’ shortfalls in capacitating students to transform ideas generated from classrooms and labs into science/tech driven ventures. These limitations are in sharp contrast to results from cases in USA where degree programmes capacitated students to create ventures commensurate with their academic backgrounds (Clarysse, 2014).

Qualitative data show on entrepreneurship lecturers’ views show that degree programmes had curricula that generated and transferred knowledge acquired by students into venture creation. However, their strategies were limited to classroom activities when compared to results from cases in Germany where lecturers reformed the curriculum in degree programmes using strategies such as partnerships with business and industry research based curriculum.

Data from entrepreneurship lecturers and document reviews show that degree programmes had curricula that developed competences for starting new businesses. However, their strategies fell short from curriculum innovation when compared to findings from cases in South Africa that show innovations in courses, support centres for developing entrepreneurship intentions and motivating students. These strategies also include support to improve venture formation, survival and growth (Shambare 2013; Meyer, 2014). Views from entrepreneurship lecturers also show limited mentorship for venture creation. This is different from findings from cases in Portugal that depict mentorship for competence development in business development and
commercialisation of research based innovations into technology businesses (Tiene and Chandlar, 2012; Katz, 2013). Views from entrepreneurship lecturers’ views concur with views by entrepreneurship students who highlight shortfalls of bias to theory, lack of commercialisation, internal and external support. These findings show similarities with findings from other studies conducted in Zimbabwe that show overreliance on theory at the expense of practical activities (Mauchi, 2011), poor infrastructure and benchmarking (Msipah, 2013), and weak university, industry partnerships leading to laboratories generated competences at the expense of industry generated competencies (Mudamburi, 2013).

Data from entrepreneurship students and document reviews depict lack of commitment by universities in establishing technology and business development centres to support students to transfer knowledge into business ventures. These findings are contrary to findings from Turkish universities where technology centres transformed the curriculum from learning about businesses management to actual venture creation experiences. Technology and business centres also increased students’ entrepreneurial intentions (Gurol and Atsan, 2013). Views from entrepreneurship students demonstrate programmes’ weaknesses in transforming students’ researches into innovation and technology ventures. However, results from cases in South Africa established how centres offered mentorship to aspiring entrepreneurs through an improved curriculum and centres for innovation and entrepreneurship (Meyer, 2014).

4.7. Chapter Summary

This chapter covered data presentation, analysis, interpretation and discussion. The chapter started with respondents’ demographic data. The demographic data presented background information on faculties and degree programmes. The chapter presented data in themes that
covered research objectives. Data from the quantitative inquiry were presented in tables and bar charts with frequencies and percentages, while data from interviews were presented in emerging themes and subthemes. Data presented were on implementation strategies, integration strategies, culture promotion and on competence development. The next chapter presents the research summary, major findings, conclusions and recommendations.
CHAPTER 5
SUMMARY, CONCLUSION(S), AND RECOMMENDATIONS

5.1. Introduction
The previous chapter covered data presentation, analysis, discussion and interpretation. This chapter covers summary of research findings, conclusions and recommendations. The overall aim of the research was to evaluate entrepreneurship curriculum implementation strategies in universities in Zimbabwe. Summary of findings, conclusions and recommendations therefore, synthesised the nature of the curriculum and how universities in Zimbabwe utilised elements of strategy, integration, competence development, culture promotion and student support to facilitate implementation of the curriculum.

5.2. Thesis Summary
The study evaluated how the incorporation of entrepreneurship curriculum into degree programmes was facilitated to produce entrepreneurship outcomes. The study was carried out in five chapters. Chapter One discussed the background to the study, statement to the problem, aim and objectives of the study, research questions, assumptions, significance, delimitation, limitations, definition of key terms, ethical and legal issues, organisation of the study, budgetary and action plan. Chapter Two gave the conceptual framework and the theoretical framework. The frameworks were informed by opportunity discovery and creation theories. The chapter reviewed empirical studies that informed the study on the nature of entrepreneurship curriculum and the variables that facilitate its implementation.
Chapter Three discussed the thesis’s ontology, epistemology, axiology, and methodology and research design. The thesis adopted a pragmatic perspective that adopted strengths of positivism and constructivism. The chapter also discussed the pragmatic epistemology. This epistemology was adopted because it accepted the use of quantitative and qualitative inquiries. The chapter discussed positivist and constructivist axiology, where the researcher upheld independent and objective principles during quantitative inquiry while accepting values to influence data during the qualitative inquiry. The chapter then presented the mixed methodology and presented the concurrent mixed method design. The chapter discussed the pragmatic approach used to validate findings. These were validity and reliability in the quantitative inquiry and trustworthiness in the qualitative inquiry. The chapter also discussed triangulation methods used to combine data sources on each research question.

Chapter Four, presented, analysed and interpreted data using descriptive statistics on quantitative data and thematic analysis on qualitative data. The chapter discussed findings after each underlying variable before presenting the proposed model.

5.3. Summary of Findings

The study established the following major findings:

5.3.1. Strategies used to implement entrepreneurship curriculum

Major findings show that, teaching approaches did not meet diversified entrepreneurship needs of students. Lecturers were not incentivised to develop teaching materials on entrepreneurship. Degree programmes had shortfalls in harnessing local entrepreneur expertise for mentoring
students. Curriculum implementation strategies were characterised by academic work with few action oriented activities.

5.3.2. Integration strategies used in facilitating curriculum implementation.
Major findings established that, there was inadequate teaching of entrepreneurship courses across degree programmes and little expansion into none business programmes. The strategies had low interdisciplinary team building and networking to stimulate venture creation by students.

5.3.3. How universities promoted entrepreneurship culture.
Major findings show that there was less commitment in engaging teams of students to create and run simulated business enterprises as a way of boosting small business creation. Degree programmes had shortfalls in motivating students’ intentions and cultivating entrepreneurial values. The findings established in-effective networking among lecturers, entrepreneurs and business practitioners in mobilising resources for culture promotion.

5.3.4. Competence development strategies used to support students
Major findings established that universities did not provide lecturers with opportunities to experience situations of actual business formation and development. Degree programmes lacked effective strategies for progressive competence building. There was lack of technology and business development centres to facilitate knowledge transfer into business ventures. There was inadequate mentorship to capacitate students to transform research work into science-tech ventures.

5.3.5. Towards a model to incorporate entrepreneurship curriculum in degree programmes
The study established how a model that incorporates entrepreneurship curriculum into all degree programmes can be developed. All research questions provided data to fill gaps regarding underlying strategies that universities can used to incorporate entrepreneurship curriculum into
degree programmes. The questions converged to form a model to incorporate entrepreneurship curriculum in all degree programmes.

5.4. Conclusions

An analysis of findings proffered in the foregoing discussion was undertaken in the context of research objectives and produced the following conclusions:

5.4.1. Strategies for facilitating entrepreneurship curriculum implementation

The study concluded that there is little consideration of students’ diversified needs during formation of entrepreneurship curriculum. Degree programmes fall short in providing curriculum based on entrepreneurial visions and goals. Universities are not active in mobilising resources to harness students’ potential and to engage business and industry to improve lecturers’ expertise. There is less commitment in promoting university/industry knowledge transfer in setting up entrepreneurship centres, innovation hubs and start-ups services. Experiential entrepreneurship learning, innovation and commercialisation are not prioritised in non-entrepreneurship degree programmes.

5.4.2. Integration strategies to facilitate curriculum implementation

The study concluded that there are few multidisciplinary knowledge generation activities in degree programmes. There is little contribution from science, technology and engineering programmes to support all students produce high-tech services and products. Entrepreneurship programmes and courses are not active in coordinating diffusion of entrepreneurship curriculum into none business programmes. Degree programmes fall short in synchronising networking efforts with external stakeholders to promote product/service innovation and commercialisation.
5.4.3. Entrepreneurship culture promotion strategies

The study concluded that there is little participation of lecturers’ in entrepreneurship culture promotion and resource mobilisation. Degree programmes are not effective in coordinating culture promotion activities to boost students’ intentions. External stakeholders are not effectively engaged in partnerships for funding and mentoring students. There is inadequate use of entrepreneurship missions, university wide resource mobilisation.

5.4.4. Competence development strategies to support students

The study concluded that there are few opportunities for lecturers to experience situations of real business planning and formation. Lecturers in science, engineering and technical programmes are not committed in harnessing expertise from professionals in business, industry and SMEs. Collaboration among lecturers, business and industry is not effective in research and development of products and services for export. Degree programmes are not active in transferring knowledge to community business ventures and university simulated business enterprises.

5.4.5. A model to incorporate entrepreneurship curriculum into degree programmes

The study concluded that it is possible that a model for incorporating entrepreneurship curriculum in all degree programmes be used by all universities to design and facilitate implementation of entrepreneurship curriculum in all degree programmes.

5. Recommendations

The following recommendations are put forward to university senates, deans and chairpersons:
5.7.1. The role of strategy formulation in curriculum implementation

5.7.1.1. University senates, deans and chairpersons may establish entrepreneurship centres that coordinate incubators developed by degree programmes. Business, industry and government ministries may be engaged in building the entrepreneurship centres.

5.7.1.2. University senates, deans and chairpersons may participate in assisting the government to establish nationally coordinated small business and technology development hubs to help students in business formation.

5.7.1.3. University senates, deans and chairpersons may implement activities where lecturers team up with communities to form entrepreneurship hubs where students participate experientially.

5.7.1.4. University senates, deans and chairpersons may blend science, technology and engineering courses with innovation content.

5.7.1.5. University senates, deans and chairpersons may make all degree programmes carry a curriculum that promote incubators and start-ups supported by business, industry and SMEs.

5.7.1.6. All lecturers may participate in the implementation and reformation of entrepreneurship curriculum in their respective programmes, in collaboration with professionals from business, industry and public sector.

5.7.2. The role of curriculum integration in curriculum implementation

5.7.2.1. University senates, deans and chairpersons may ensure that all degree programmes establish innovation, technology and business development centres for purposes of harmonising venture creation.
5.7.2.2. University senates, deans and chairpersons may collaborate in ensuring that all degree programmes incorporate entrepreneurship visions, missions, goals and objectives to promote entrepreneurship culture.

5.7.2.3. University senates, deans and chairpersons may collaborate in ensuring that all degree programmes engage students in knowledge transfer activities.

5.7.2.4. University senates, deans and chairpersons may ensure that all degree programmes incorporate entrepreneurship, emphasising experiential learning leading to product/service commercialisation.

5.7.2.5. University senates, deans and chairpersons may collaborate in ensuring that all degree programmes incorporate research and development in partnership with business and industry to produce entrepreneurial outcomes.

5.7.2.6. University senates, deans and chairpersons may collaborate in ensuring that all degree programmes harness resources from business, industry and local entrepreneurs to mentor students.

5.7.2.7. University senates, deans and chairpersons for science and engineering programmes may establish innovation labs where students from various backgrounds do collaborative innovation studies.

5.7.3. The role of entrepreneurship culture in curriculum implementation

5.7.3.1. All lecturers may plan activities that influence academic environments in universities to boost students’ intentions into entrepreneurship.
5.7.3.2. University senates, deans and chairpersons may ensure that entrepreneurship curriculum in all degree programmes incorporates venture creation where students participate in informal sector activities for purposes of searching and creating business opportunities.

5.7.3.3. University senates, deans and chairpersons may ensure that all degree programmes incorporate activities that encourage all university staff to participate in culture promotion.

5.7.3.4. University senates, deans and chairpersons may ensure that all degree programmes have activities where students experience experiential entrepreneurship life.

5.7.3.5. University senates, deans and chairpersons may incorporate activities where students participate in entrepreneurship activities within their respective communities.

5.7.3.6. University senates, deans and chairpersons may organise university staff and students to take part in resource mobilisation and community entrepreneurship.

5.7.3.7. University senates, deans and chairpersons may organise activities where all students take part in running small businesses as a way of promoting a culture of business formation.

5.7.3.8. University senates, deans and chairpersons may set up university centres where the communities get services in the formation of SMEs.

5.7.4. **The role of entrepreneurial competence development**

5.7.4.1. University senates, deans and chairpersons may reform goals and activities in all none-business degree programmes to incorporate business creation and development in partnership with relevant sectors in commerce and industry.

5.7.4.2. University senates, deans and chairpersons may collaborate to set up technology and innovation hubs where students from various programmes participate in venture creation.
5.7.4.3. University senates, deans and chairpersons may incorporate activities where students with potential projects for development and commercialisation are supported into technology innovation and business start-ups.

5.7.4.4. University senates, deans and chairpersons in non-business and non-science disciplines may incorporate assessment activities that engage students into social entrepreneurship.

5.7.4.5. All lecturers may be staff developed to generate start-up activities so as to advance their students into venture creation

5.7.5. Proposed model for incorporating entrepreneurship curriculum into degree programmes

University senates, deans and chairpersons may adapt the proposed model for incorporating entrepreneurship curriculum in all degree programmes.
5.8. Research’s Contributions

5.8.1. Proposed Model for Incorporating Entrepreneurship Curriculum

Figure 5.1: A model for implementation of entrepreneurship curriculum in degree programmes

Source: Author (2018).
Figure 5.1 shows a proposed model for implementation of entrepreneurship curriculum in degree programmes. The need for a model was prompted by the quest for solutions to programmes’ shortfalls in capacitating students to search, discover and create business opportunities. The quest was also prompted by low uptake of university graduates in productive sectors of the economy especially the informal sector. This scenario, against the background of few entrepreneurship degree programmes on offer, impelled the need for a model that all universities can use.

The model, proposes that all degree programmes offer start-ups opportunities for all students. Degree programmes must incorporate a curriculum that progress students into the opportunity search and creation process illustrated in each pocket of the model. The model also proposes a curriculum where students experience search and creation process. Through the experiential search processes, the curriculum prepares students to emerge from their degree programmes as entrepreneurs. The model emphasise that all degree programmes prioritise venture creation and increased participation of lecturers in curriculum goal setting and design of teaching methods. The model recommends a two pronged curriculum incorporating formal and informal activities, supported by student support for incubators and start-ups in partnerships with business, industry and SMEs. The model incorporates underlying variables that drive formation and implementation of the curriculum. The inclusion of the underlying variables was prompted by the gap that little was known on the underlying fundamentals guiding design and implementation of curricula that produces desired entrepreneurship outcomes. In the end, the model proposes a strategy where all degree programmes have an entrepreneurship curriculum designed and implemented in one or in a combination of any of the components in the model. The model, therefore, fills the gap that, while in developed countries some universities turned entrepreneurial
by benchmarking processes of designing and implementing entrepreneurship curriculum in their degree programmes, in Zimbabwe there was no such framework.

5.9. Areas for Further Research

Given that the research adopted a mixed method research, it laid a basis for further studies to explore underlying of variables that facilitate implementation of entrepreneurship in all degree programmes in specific settings. Further studies in the form of case studies or national surveys may pursue specific areas such as university/industry partnerships in curriculum development. It is possible that the study, as a national survey, might have by-passed contextual dynamics in universities and, therefore, there is need for further studies to explore specific universities and degree programmes in the context of their respective mandates. Further studies of similar nature may reach out to data sources in labour, commerce, industry and government.
References


http://carbon.videolectures.net/v005/e1/4gi2nosqk7a4u3rhmb6f4yl2huqf7a5.pdf  
retrieved on 3 February 2007

http://www.nova.edu/ssss/QR/QR11-3/onwuegbuzie.pdf  
Accessed on 26 September 2012


Bibliography


HIT (2014). *HIT and CITC (Iran) in Technology Transfer drive*. Zimbabwe, Harare: HIT.


National Taiwan University (NTU) (2014). *Creativity and Entrepreneurship Programme, 3(4)*. Retrieved September 14 2009 from the World Wide Web: [http://www2ce](http://www2ce)


*Keynote Address delivered at the 7th International Conference on Intercultural Competence*, Russia, Moscow: Khaborovsk.


**Appendix 1: Distribution of Degree Programs**

<table>
<thead>
<tr>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic commerce</td>
</tr>
<tr>
<td>Arts</td>
</tr>
<tr>
<td>Theology</td>
</tr>
<tr>
<td>Animal production and Technology</td>
</tr>
<tr>
<td>Environmental Health</td>
</tr>
<tr>
<td>Production Engineering</td>
</tr>
<tr>
<td>Fuels and Energy Engineering</td>
</tr>
<tr>
<td>Creative Arts</td>
</tr>
<tr>
<td>Fine Arts</td>
</tr>
<tr>
<td>Entrepreneurship and Business Management</td>
</tr>
<tr>
<td>Supply Chain Management</td>
</tr>
<tr>
<td>Financial engineering</td>
</tr>
<tr>
<td>Hospitality and Tourism</td>
</tr>
<tr>
<td>Travel and Recreation</td>
</tr>
<tr>
<td>Applied Chemistry</td>
</tr>
<tr>
<td>Forest Resources and Wildlife</td>
</tr>
<tr>
<td>Property Development and Estates Management</td>
</tr>
<tr>
<td>Banking and Investment Management</td>
</tr>
<tr>
<td>Journalism and Media Studies</td>
</tr>
<tr>
<td>Library and Information Science</td>
</tr>
<tr>
<td>Chemical Engineering</td>
</tr>
<tr>
<td>Industrial and Manufacturing Engineering</td>
</tr>
<tr>
<td>Chemical and process systems Engineering</td>
</tr>
<tr>
<td>Medicine</td>
</tr>
<tr>
<td>Computer Science</td>
</tr>
<tr>
<td>Clothing, Textile and Fashion Design</td>
</tr>
<tr>
<td>Statistics and Operations Research</td>
</tr>
<tr>
<td>Livestock, Wildlife and Fisheries</td>
</tr>
<tr>
<td>Development Studies</td>
</tr>
<tr>
<td>History</td>
</tr>
<tr>
<td>Risk Management and Insurance</td>
</tr>
<tr>
<td>Marketing Management</td>
</tr>
<tr>
<td>Special needs Education</td>
</tr>
<tr>
<td>Industrial and Manufacturing Engineering</td>
</tr>
<tr>
<td>Early Childhood Education</td>
</tr>
<tr>
<td>Gender and Social Anthropology</td>
</tr>
<tr>
<td>Law</td>
</tr>
<tr>
<td>Archaeology, museums and heritage studies</td>
</tr>
<tr>
<td>Musicology and Ethnochoreology</td>
</tr>
<tr>
<td>Sociology</td>
</tr>
<tr>
<td>Biotechnology</td>
</tr>
<tr>
<td>Architecture</td>
</tr>
<tr>
<td>Accounting</td>
</tr>
<tr>
<td>Food processing Technology</td>
</tr>
<tr>
<td>Information Technology</td>
</tr>
<tr>
<td>Software engineering</td>
</tr>
<tr>
<td>Business management and Information Technology</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td><strong>47</strong></td>
</tr>
</tbody>
</table>
Appendix 2: Distribution of Entrepreneurship Degree Programmes

<table>
<thead>
<tr>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Commerce Honours Degree in Entrepreneurship</td>
</tr>
<tr>
<td>Bachelor of Commerce Science Honours Degree in Entrepreneurship</td>
</tr>
<tr>
<td>Bachelor of Science Honours Management and Entrepreneurship Development Studies</td>
</tr>
<tr>
<td>Bachelor of Commerce degree in Entrepreneurship</td>
</tr>
<tr>
<td>Bachelor of Commerce in Entrepreneurship and Business Management</td>
</tr>
</tbody>
</table>

Total 5
# Appendix 3: Questionnaire for Lecturers

**QUESTIONNAIRE FOR LECTURERS**

My name is Stephen Mwenje. I am a Doctor of Philosophy Degree student at Zimbabwe Open University studying implementation of entrepreneurship education in universities. I wish to collect survey data from university lecturers. Your assistance in completing this questionnaire is kindly requested. Be assured that all information gathered shall be treated in confidence. Thank you in advance for your cooperation.

**Section A: Bio-data**

1. Gender: Male ☐ Female ☐
   2. Age/years ☐

3. What is your faculty?...

4. In which degree programme are you teaching?...

5. What is your highest professional qualification?...

6. University teaching experience years ☐

7. What business oriented university service have you done?...

8. What community service activities related to entrepreneurship development have you done?

9. Are you an entrepreneur? Yes ☐ No ☐

**Section B: Strategies for facilitating implementation**

10. Entrepreneurship is taught in your degree programme through:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A    Interdisciplinary teaching approaches that meet entrepreneurial needs of all university students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B    Incentives for research and scholarship on opportunity discovery and creation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C    Support for lecturers to create opportunities for starting new business ventures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D    Benchmarking and assessing behaviours, attributes and skills for opportunity discovery and creation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E    Lecturers forming strategic partnerships with enterprises in commerce and industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F    Engaging prominent and active entrepreneurs in mentoring students in all degree programmes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G    In-service training of lecturers in business opportunity searching and creation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H    Knowledge and technology transfer from degree programmes into venture creation e.g. to SMEs, agrarian and small scale mining ventures</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments……………………………………………………………………………………………………………………………

---

376
11. Your degree programme implement entrepreneurship curriculum through the following partnership strategies:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Lecturers provide consultancy in community entrepreneurship ventures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Knowledge generation and transfer from degree programmes into manufacturing technologies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Degree programmes exchange expertise and experiences with business and industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Degree programmes support government policies on entrepreneurship e.g. lecturers participating in youth empowerment programmes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Degree programmes capacitate students to create self-employment ventures in communities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments………………………………………………………………………………………………………………………………………..

**Section C: Integration strategies**

12. Does your programme offer courses on entrepreneurship? Yes No

13. Your degree programme integrates entrepreneurship into university wide curriculum through:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Compulsory entrepreneurship courses offered to all students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Spreading opportunity searching and discovery competencies from business programmes to all other programmes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C All university functionaries work as an ecosystem in searching and creating business opportunities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Students and lecturers work in interdisciplinary teams to create new products and services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Lecturers teach entrepreneurship courses across all programmes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F A networking centre that coordinates lecturer/student support services for searching and creating business opportunities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G Collaborating with other degree programmes in producing entrepreneurship curriculum</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments………………………………………………………………………………………………………………………………………..

**Section D: Culture promotion strategies**

16. Please rate your degree programme in terms of the following culture promotion strategies.

<table>
<thead>
<tr>
<th>Strategy for promoting entrepreneurship spirit</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Promoting visions, missions and values for searching and creating business opportunities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Contributing to university wide framework for searching and creation of business opportunities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Networking with local enterprises in searching and creating opportunities for income generation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Promoting cultural environments that develop attributes for opportunity searching and creation among staff and students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Capacitating lecturers and students to think and act like entrepreneurs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Promoting staff commitment towards business opportunity searching and creation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G A climate that promotes opportunity searching and creation form government policies and university/industry partnerships</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section D: Competence development strategies to support students

14. Your degree programme uses the following competence development strategies.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Research oriented activities that develop competencies for opportunity searching and discovery among students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Opportunity searching and creation activities that lead students into formation of start-ups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Engaging active entrepreneurs in mentoring students in searching and creating business opportunities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Examining students through their business and social entrepreneurship projects e.g., showbiz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Benchmarking and measuring outcomes for opportunity searching and creation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Developing opportunity searching and creation competencies at each academic level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G Human resources activities that support lecturers to practice in actual settings of company formation.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments…………………………………………………………………………………………

15: How do you rate your programme in developing the following entrepreneurial attributes?

<table>
<thead>
<tr>
<th>Entrepreneurial attributes</th>
<th>Very poor</th>
<th>Poor</th>
<th>Good</th>
<th>Very good</th>
<th>Excellence</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Searching and creating business opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Transferring discovered and created opportunities into venture creation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Commercialising ideas from discovered and created opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Creating small business ventures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Growing existing businesses ventures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Risk taking in searching and creating business opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G Persisting in searching and creating business opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments…………………………………………………………………………………………

17. Your degree programme uses the following student support strategies:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Start-ups and business incubation programmes that transform potential ventures into perfection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Engaging experts from industry/commerce to mentor students to create and grow businesses ventures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Action oriented and experiential learning to stimulate searching and creation of business opportunities by students</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mentoring students’ initiatives into viable business ventures

A centre for directing creation of business opportunities at the university and in communities

Additional comments…..................................................................................................................................................

18. Your degree programme offers the following support services to help students transfer knowledge into entrepreneurial practice

<table>
<thead>
<tr>
<th>Support</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Attaching students to enterprises that provide experiences for ventures that students are pursuing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Commercialisation of innovative products and services from students’ creations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Simulated business enterprises run by students and lecturers from across academic disciplines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Generating innovative technologies and business solutions from researches generated by lecturers and students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Venture creation studies/courses for all degree programmes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Venture creation exchange programmes in collaboration with foreign universities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments…..................................................................................................................................................

THANK YOU

Supervisors: Dr R. Tshuma (Late), Prof T. Njaya
QUESTIONNAIRE FOR STUDENTS

My name is Stephen Mwenje. I am a Doctor of Philosophy Degree student at Zimbabwe Open University studying implementation of entrepreneurship education in universities. I wish to collect survey data from university students. Your assistance in completing this questionnaire is kindly requested. Be assured that all information gathered shall be treated in confidence. Thank you in advance for your cooperation.

Section A: Bio-data

1. Gender: Male ☐ Female ☐
2. Age __________ years __________
3. What is your faculty? ____________________________________________________________________________________________
4. What is your degree programme? ____________________________________________________________________________________________
5. In which year of study are you in? ____________________________________________________________________________________________
6. List entrepreneurship courses in your programme if any ____________________________________________________________________________________________
7. Do you intend to start your own business soon after graduation? Yes ☐ No ☐

Section B: Strategies for facilitating implementation

8. In your degree programme entrepreneurship is learnt through ……..

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  Traditional lecture methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B  Interactive multi-disciplinary tutorials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C  Practical entrepreneurship activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D  Student support services for business opportunity searching and creation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E  Inviting guest entrepreneurs to conduct lectures/ tutorials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F  Live, real case studies on forming business enterprises</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G  Engaging practicing entrepreneurs as tutors for business formation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H  Commercialisation of new technologies from students’ researches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I  Business planning workshops and competitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J  Start-ups and incubators for students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K  Students participating in forming and running university business ventures</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments…………………………………………………………………………………………………………………

380
**Section C: Integration strategies**

9. In your degree programme, the following integration strategies are used:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Lecturers and students from different degree programmes network in business opportunity search and creation</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Students in interdisciplinary teams collaborate in creating businesses ventures</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Practicing entrepreneurs provide venture creation advisory services to students from across all degree programmes.</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>University assist students from across all programmes to access capital for business creation</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Students in interdisciplinary teams research on business formation</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Lecturers from different programmes support students in your programme to search and create business opportunities</td>
<td></td>
</tr>
</tbody>
</table>

Additional comments:........................................................................................................................................
........................................................................................................................................................................

10. Your degree programme is committed to integration of entrepreneurship curriculum through:

<table>
<thead>
<tr>
<th>Interdisciplinary activity</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Interdisciplinary academic activities that promote searching and creating business opportunities</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>A centre that coordinates discovered and created opportunities into business ventures</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Students in interdisciplinary teams researching on opportunities for new products and services</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Simulated business enterprises run by students from different programmes</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Business incubators for students working in interdisciplinary teams</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Business start-ups and incubators for Arts, Social Science and Humanities students</td>
<td></td>
</tr>
</tbody>
</table>

Additional comments:........................................................................................................................................
........................................................................................................................................................................

**Section E: Culture promotion activities**

11. Your degree programme promotes entrepreneurship culture through:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Regular interdisciplinary cultural activities on venture creation</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Organising technology commercialisation activities</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Organising students and staff for outreach activities on supporting SMEs</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Producing modules/ courses on opportunity searching and creation.</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Encouraging students to search and create opportunities for social entrepreneurship projects</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Encouraging students and staff from various departments to form teams for start-ups and spinoffs</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Networking with government, NGOs, commerce and industry in supporting students to search and create opportunities for business ventures.</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Consultancy services for communities pursuing income generating ventures</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Creating platforms where students network with entrepreneurship scholars, active entrepreneurs and educators</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Promoting a culture at the university that promote that value searching and creating business opportunities.</td>
<td></td>
</tr>
</tbody>
</table>
Section D: Competence development strategies

12. Please rate your degree programme in terms of capacitating you to do the following.

<table>
<thead>
<tr>
<th>Entrepreneurial activity</th>
<th>Very poor</th>
<th>poor</th>
<th>good</th>
<th>Very good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Searching and creating business opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Knowledge transfer into company formation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Commercialisation of business ideas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Creating opportunities developing business technologies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Creating opportunities for growing businesses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Taking risks in searching and creating business opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G Persisting in searching and creating business opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. Additional comments

.......................................................................................................................................................

14. Your degree programme supports students to venture into experiential entrepreneurship through:

<table>
<thead>
<tr>
<th>Support</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Promoting innovation and technology development from knowledge and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>skills generated by lecturers and students.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Encouraging creation of science/tech innovations from labs/classrooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>into concrete projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C A student support centre for innovation and business development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Start-ups activities for Social Science, Arts and Humanities students</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments..................................................................................................................

15. Your degree programme provides support services for students to transfer knowledge into practice through:

<table>
<thead>
<tr>
<th>Support</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Attaching students to enterprises that provide experiences for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>business opportunities students are pursuing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Commercialisation of products and services from students’ innovations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Organising simulated business enterprises run by lecturers and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Promoting innovation and technology development from ideas generated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>by lecturers and students.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Venture creation studies/courses for students across all programmes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Venture creation exchange programmes with foreign universities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments..................................................................................................................

382
16. How do you rate your programme in terms of capacitating students to do the following?

<table>
<thead>
<tr>
<th>Capability</th>
<th>Very poor</th>
<th>Poor</th>
<th>Good</th>
<th>Very good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Generating knowledge for searching and creating businesses opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Generating opportunities for producing new goods and services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C Generating opportunities for creating self-employment ventures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Discovery and creation of small business opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E Commercialisation of students’ researches</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. Additional comments

........................................................................................................................................
........................................................................................................................................
........................................................................................................................................
........................................................................................................................................

THANK YOU

Supervisors: Dr R. Tshuma (Late), Prof T. Njaya
Appendix 5: Interview Guide for Entrepreneurship Lecturers

INTERVIEW GUIDE FOR ENTREPRENEURSHIP LECTURERS

My name is Stephen Mwenje. I am a Doctor of Philosophy Degree student at Zimbabwe Open University studying implementation of entrepreneurship education in universities. I wish to generate data from entrepreneurship lecturers. Your assistance in participating in this interview is kindly requested. Be assured that all information gathered shall be treated in confidence. Thank you in advance for your cooperation.

Section A: Bio-data
1. Gender: Male ☐ Female ☐ 2. Age/years ☐
3. What is your faculty?..............................................................................................................
4. In which degree programme are you teaching?........................................................................
5. What is your highest professional qualification?.................................................................
6. University teaching experience years ☐
7. What business oriented university service have you done?................................................
8. What community service activities related to entrepreneurship development have you done?

..............................................................

9. Are you an entrepreneur? Yes ☐ No ☐

Section B:
10. Please explain strategies that your programme uses to teach entrepreneurship studies

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11. Explain community/outreach activities related to entrepreneurship is your programme engaged in.

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12. Explain how your programme integrate its entrepreneurship curriculum with that of other programmes

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13. Describe competence development strategies that you use to support your students to discover and create business opportunities?

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14. Explain culture promotion activities done in your programme to boost the spirit for searching and creating business opportunities.

15. What strategies does your programme use to guide students into venture discovery and creation?

16. Additional comments

THANK YOU

Supervisors: Dr R. Tshuma (Late), Prof T. Njaya
Appendix 6: Interview Guide for Entrepreneurship Students

INTERVIEW GUIDE FOR ENTREPRENEURSHIP STUDENTS

My name is Stephen Mwenje. I am a Doctor of Philosophy Degree student at Zimbabwe Open University studying implementation of entrepreneurship education in universities. I wish to generate data from students doing entrepreneurship studies. Your assistance in participating in this interview is kindly requested. Be assured that all information gathered shall be treated in confidence. Thank you in advance for your cooperation.

Section A: Bio-data

1. Gender: Male [ ] Female [ ]
2. Age [ ] years
3. What is your faculty? ..................................................................................................................................
4. What is your degree programme? ........................................................................................................
5. In which year of study are you in? ........................................................................................................
6. List entrepreneurship courses in your programme if any

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..........................................................................................................................................................
7. Do you intend to start your own business soon after graduation? Yes [ ] No [ ]
8. Explain practical activities in your programme that involve searching and creating business opportunities.

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..........................................................................................................................................................
9. Describe activities in your programme that integrate entrepreneurship curriculum into other programmes

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..........................................................................................................................................................
10. What competencies for searching and creating business opportunities have you acquired from your studies?

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11. Explain culture promotion activities your programme do in order to boost the spirit for searching and creating business opportunities

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12. How does your programme guide you into start-ups and actual venture creation and start-ups?

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THANK YOU

Supervisors: Dr R. Tshuma (Late), Prof T. Njaya
Appendix 7: Consent Form

CONSENT FORM


You are invited to participate in a study by Stephen Mwenje, a Doctor of Philosophy candidate from Zimbabwe Open University (ZOU). Please take your time to read this form. You are free to discuss with your colleagues. You shall be given a copy of this form.

Purpose:
To obtain your views on how entrepreneurship is taught in your degree programmes.

Procedures
You shall be asked to complete a questionnaire or to participate in interviews. This can be done at any location you prefer.

Potential risks
There are no potential risks. If you feel uncomfortable with some questions you are free to ask or to skip them.

Potential benefits
You will not receive any payment for your participation.

Potential conflict of interests
The researcher does not have any financial interests on the data to be collected.

Confidentiality
Any information that shall be obtained shall remain confidential and shall only be disclosed on your permission. Data shall be coded. 1, 2, 3 and a, b, c. etc.

Audio recording
Your consent shall be asked for audio recording. You shall be given an audio recording consent form and you are free to decline to be recorded.

Alternative to participation
Alternatives are to participate or not to participate. Your consent shall be your decision to participate.

Identification of the researcher
If you need to verify further details about this research please conduct the following:

Candidate
Stephen Mwenje
Stephen.mwenje@gmail.com
263772927234

Supervisors
Prof Nyuya T. (ZOU Higher degrees Directorate)
Prof Nyaruwata L. (ZOU Higher Degrees Directorate)
04-7930027/8
Appendix 8: Audio Recording Consent Form

AUDIO RECORDING CONSENT FORM


The interview involves audio recording or note taking. Audio recording shall be optional and your name or any other identifying information shall not be associated with the recording. The recording shall only be transcribed by the researcher and erased as soon as the research is over. Audio tapes and transcribed copies can be provided upon request.

Your consent shall be your decision to be recorded and if you need further details about the recording please contact the following:

Candidate

Stephen Mwenje

Supervisors

Prof Nyaya T. (ZOU Higher degrees Directorate)

Stephen.mwenje@gmail.com

Prof Nyaruwata L. (ZOU Higher Degrees Directorate)

263772927234

04-793002/7/8
Appendix 9: Letter for permission from Zimbabwe Open University Higher Degrees Directorate

Ref: HD/21
30 April 2015

To whom it may concern

MR STEPHEN MWENJE (P1310508R) DIRECTORATE REFERENCE
(D/MAR/13/15/10)

The bearer, Stephen Mwenje, P1310508R, Directorate Reference Number D/MAR/13/15/10
is a bona fide Higher Degrees candidate registered for the Doctor of Philosophy programme
with this University. He is conducting research under the theme: “Enhancing entrepreneurship
education in Zimbabwe’s Higher Education: An analysis of Universities’ teaching systems and practices.”

Any assistance offered to him to facilitate his study will be most appreciated.

Dr A. S. Chikasha
Director, Higher Degrees Directorate
Appendix 10: Letter of Permission from Ministry of Higher and Tertiary Education, Science and Technology Development

14 July 2015

Mr S. Mwenje
22 NHF Gledhill
Sakubva
Mutare

Dear Mr S. Mwenje,

REQUEST FOR PERMISSION TO CONDUCT A RESEARCH ON “ENHANCING ENTREPRENEURSHIP EDUCATION IN ZIMBABWE’S HIGHER EDUCATION: AN ANALYSIS OF UNIVERSITIES’ TEACHING SYSTEMS AND PRACTICES”.

Reference is made to your letter, in which you request for permission to carry out an educational research on “ENHANCING ENTREPRENEURSHIP EDUCATION IN ZIMBABWE’S HIGHER EDUCATION: AN ANALYSIS OF UNIVERSITIES’ TEACHING SYSTEMS AND PRACTICES”.

Accordingly, be advised that the head of Ministry has granted permission for you to carry the research in universities.

It is hoped that your research will benefit the ministry. Accordingly, it would be appreciated if you could supply the office of the permanent secretary with a final copy of your study, as the findings would be relevant to the Ministry’s strategic planning process.

M. J. Chirapa (Ms)
For: PERMANENT SECRETARY