UNIVERSITY OF EDUCATION, WINNEBA

STATE ACCOUNTABILITY AND EDUCATIONAL INSTITUTIONAL READINESS FOR WORK-INTEGRATED LEARNING (WIL): THE CASE OF UNIVERSITY FOR DEVELOPMENT STUDIES (UDS)

SABINA ASIEDUWAA FEBIRI

MASTER OF PHILOSOPHY

2025

UNIVERSITY OF EDUCATION, WINNEBA

STATE ACCOUNTABILITY AND EDUCATIONAL INSTITUTIONAL READINESS FOR WORK-INTEGRATED LEARNING: THE CASE OF UNIVERSITY FOR DEVELOPMENT STUDIES (UDS)

SABINA ASIEDUWAA FEBIRI
(8170210014)

A thesis submitted to the School of Graduate Studies in partial fulfillment of the requirements for the award of the degree of Master of Philosophy (Educational Administration and Management)

DEPARTMENT OF EDUCATIONAL ADMINISTRATION AND MANAGEMENT,
SCHOOL OF EDUCATION AND LIFE-LONG LEARNING,
UNIVERSITY OF EDUCATION, WINNEBA

MAY, 2025

DECLARATION

Student's Declaration

I, Sabina Asieduwaa Febiri, declare that this thesis, with the exception of quotations and references contained in published works which have been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

Signature: ……..……..…

Date: …….……

Supervisor's Declaration

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis as laid down by the University of Education, Winneba.

Supervisor's Name: Professor Kwame Odei-Tettey

Signature: ……

Date: …….……

DEDICATION

I dedicate this work to my mother, Vida Febiri for her motherly love and support.

ACKNOWLEDGEMENTS

I express my profound gratitude and appreciation to my supervisor, Professor Kwame Odei-Tettey for his time, direction, patience, constructive and very valuable suggestions, fairness and firmness, selfless devotion to duty and his many other qualities despite his tremendous responsibilities and tasks. To all my lecturers in the Department of Educational Administration and Management I express my heartfelt thanks to you. I am also grateful to both academic and administrative staff and students of School of Engineering in University for Development Studies (UDS), staff of Ghana Tertiary Education Commission (GTEC) and Ghana National Petroleum Corporation (GNPC) for availing themselves for the study. I am also appreciative to Rev. Edward Broni Boahen for his immeasurable support. Finally, to all those who helped in diverse ways in seeing my study to a successful end, I say am eternally grateful and God bless you all. Thank you.

TABLE OF CONTENTS

GLOSSARY

WIL	Work-Integrated Learning
PwC	Price Waterhouse Coopers
BIHECC	Business Industry and Higher Education Collaboration Council
HE	Higher Education
NCTE	National Council for Tertiary Education
AGI	Association of Ghana Industries
ACCE	Accountability Council of Co-operative Education
PD Programme	Professional Development Programme
CDD-GHANA	Ghana Center for Democratic Development
ILO	International Labour Organization
OECD	Organization for Economic Cooperation and Development
GTEC	Ghana Tertiary Education Commission
UDS	University for Development Studies
HEIs	Higher Education Institutions
UEW	University of Education, Winneba
IJWIL	International Journal of Work-Integrated Learning
UIC	University- Industry Collaboration
STI	Science, Technology and Innovation
MOTI	Ministry of Trade and Industry
GEA	Ghana Employers Association
ICCES	Integrated Community Centre for Employable Skills
ITTU	Intermediate Technology Transfer Units
ELT	Experiential learning theory

WACWISA	West African Centre for Water, Irrigation and Sustainable
DAE	Department of Agricultural Engineering
DCE	Department of Civil Engineering
DMIE	Department of Mechanical and Industrial Engineering
DGE	Department of Geological Engineering
DAWWE	Department of Water, Waste and Environmental Engineering
DEEE	Department of Electrical/Electronic Engineering
ETC	Energy Technology Centre
GNPC	Ghana National Petroleum Corporation
KNUST	Kwame Nkrumah University of Science and Technology
TaTU	Tamale Technical University
UENR	University of Energy and Natural Resources
RMU	Regional Maritime University
TTFPP	Third Trimester Field Practical Programme
VU	Victoria University
UG	University of Ghana
UMAT	University of Mines and Technology

ABSTRACT

This study sought to explore how university courses in University for Development Studies (UDS) can be developed to meet industry requirements and to find out how the state can support work-integrated learning with a policy initiative in order to ensure state accountability. The research philosophy adopted to guide the methods and analyses of this study was interpretivism and the research design for this study was a single case study. The sample size for this study was thirty-one (31) participants involving twelve final year students, twelve past students, two heads of departments, two lecturers and 1 industrial attachment supervisor all of School of Engineering, University for Development Studies. As part of the participants, one staff of Ghana Tertiary Education Council (GTEC) and one staff of Ghana National Petroleum Corporation (GNPC) were interviewed. Sampling techniques such as purposive and convenience sampling techniques were employed to select the sample. Three main methods were employed in the collection of data for the study namely, interview (semi-structured), focus group discussion and documentary evidence. The grounded theory framework was used to analyze the data collected. The study revealed that there was an existing connection between university courses and the requirements of industry because University for Development Studies (UDS) uses practically oriented approaches such as field trips, and visitations to workshops and laboratories to align university courses to the requirements of industry. The study also found that work-integrated learning has an appreciable effect on students‘ future employment opportunities. The study revealed that UDS modifies its curriculum through research development and that ensures that it remains relevant and contribute to the nation's economic and industrial growth. The study revealed that work-integrated learning policy is important to the successful implementation of work-integrated learning. Firstly, the study concluded that although UDS has a connection with industry, the existing connection is not strong enough and so university courses do not largely meet the requirements of industry. Secondly, the study concluded that WIL has an appreciable effect on students‘ future employment opportunities. Thirdly the study concluded that methods and strategies such as curriculum modification or re-alignment, strong collaborations with industry for its inputs on new trends and technological advancement and a proper cost analysis on the cost involved in implementing an effective WIL programme are ways through which university courses can be developed to meet industry requirements. Finally, the study concluded that there currently is no WIL policy and so the state should develop a WIL policy through GTEC and ensure that it guides UDS in the implementation of WIL that would provide students with quality education and because the state is accountable to its citizens and to ensure that they receive quality education. Firstly, in the instances where there are gaps, the study recommended that UDS should develop stronger ties with industry to bridge such gaps that exist in between university courses and the requirements of industry. Secondly, industry should avail itself to UDS and receive staff and students who come to them for industrial experience and provide students who learn from them stipends to assist students financially. Thirdly, UDS must remodify its curriculum with various WIL opportunities whiles initiating rigorous consultations with industry. Finally, the state through its regulatory body, GTEC should develop a WIL policy that would aid its implementation.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter is an introductory section to the study on state accountability and educational institutional readiness for work-integrated learning (WIL): The case of University for Development Studies (UDS). It provides detailed information on the background to the study through which the problem was identified. It also covers the statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, delimitations of the study, operational definitions and organization of the study.

1.1 Background to the Study

It is important to recognize the importance of academic education for both the development of a country and for increasing graduates' employability when they transit into the workforce. Due to globalization, technological innovation, and changing work organizations, there is an increasing demand for skilled workforce globally, particularly in developing economies (Boden & Nedeva, 2010). However, the skills that people acquire through academic training and the skills that the industry need do not match up (United Nations, Department of Economic and Social Affairs, Population Division, 2019). As a result, it is important to make sure that academic course content provides graduates with practical skills. Four categories of discrepancies between acquired skills and those needed by the labour market may be skill shortage, skill gap, qualification mismatch, and over or under skilling (Andrews & Higson, 2008, as cited in Danuser & Kendzia, 2019; Boden & Nedeva, 2010).

Every country relies heavily on the acceleration of economic growth and technological advancement. Strong ties between university and industry are necessary for a nation to consistently advance its economic and technological growth (Bawakyillenuo et al., 2013). The roles of higher education are often debated on because they are not the same everywhere, hence, Trede et al. (2012) contends that one of such roles is to produce work-ready graduates. It is the view of Trede et al. (2012) that ~~a~~academics are at university, and work-integrated learning (WIL) educators are at work but students are learners in both, and all three stakeholders of work-integrated learning (WIL) shape, consciously or not, the development of students' professional identities" (p. 162).

Over the past years, the higher education sector in Ghana has grown massively. In Ghana's expanding economy, new graduates anticipate finding jobs after completing their studies thanks to the expansion of higher education and improved access for many young people who want to pursue higher education. Many university graduates in Ghana now struggle to find employment right away, and as a result, they are becoming increasingly isolated and unable to join the country's expanding middle class (Ananga & Anapey, 2016). The public frequently questions the value and efficacy of higher education in Ghana and blames the university's lack of response for the high rate of unemployed graduates (National Council for Tertiary Education [NCTE], 2012). Graduates and businesses disagree on what is to blame for the issue inadequate employment prospects or a lack of employable skills on the part of graduates (Ananga & Anapey, 2016).

According to Patrick et al. (2008) a valid methodology and as a means to react to demands by employers for work-ready graduates, and demands by students for employable knowledge and skills, the university sector is rapidly adopting work-integrated learning (WIL), WIL is gaining popularity and is being discussed in public and professional forums both within and outside of higher education. Higher education institutions are becoming more deeply and seriously involved with the WIL agenda as a result of government policies that emphasize productivity gains employer demands and students' urgent search for programmes that will provide quick returns on their investment (Harvey, 2005; Yorke, 2006). According to Accountability Council of Co-operative Education (ACCE) (2015), created a comparative matrix for WIL and education in response to increased interest in and calls for more WIL opportunities for students in post-secondary education (Johnston et al., 2016). A study by Whelan (2017) on WIL and engagement with industry noticed some significant connections with industry partners who supervised students on their eight-week placement. Also, the reflective journals of students on placements affirmed that they appreciated the value of their experiential learning through their WIL experience.

Ananga and Anapey (2016) conducted a study on four universities in Ghana and found that the universities took steps to improve students' employability through internships, skill-development courses, career advice, career and prospective employer research, and volunteer work. However, because these initiatives were voluntary, the majority of students did not participate in or gain from them. In higher education, WIL gives students a chance to combine classroom instruction with "real-world" experience and promotes both industry input on a person's capacity and self-reflection (Smith, 2012). As a result, WIL can help students become more aware of

the job market and potential career paths while also giving them the essential exposure to a relevant work environment to help them make well-informed professional decisions (Usher, 2012). Building partnerships between academia and industry is most likely to encourage an exchange and sharing of information to train students in Ghana's higher education system to succeed in a competitive global market economy as educated skilled workers (Goode, 2017). However, WIL alone does not ensure that students and graduates will have successful careers. Such experiences should be supported by pedagogical tactics throughout a programme to maximize learning opportunities for them to be really effective (Bates & Hayes, 2017). If WIL is to be successful WIL activities must be significant, pertinent, and purposefully linked and connected with university curriculum (Clarke, 2018; Johnston, 2011; Sachs et al., 2017).

Naturally, universities do not have the sole authority to address concerns with industry-work experience. Rather than assuming that universities alone can address this gap, there are a variety of government and industry responsibilities that also apply, indicating the necessity for a collaboration approach. Universities must build and maintain ongoing relationships with industry partners, retain current records, and maintain communication with alumni and workplace managers in order to implement WIL programmes successfully. Afonja et al. (2005) assert that even when industries accept students for industrial attachment, they are frequently poorly supervised or evaluated. They recommend the formation of strong industrial placement units by faculties, faculty-employer collaboration in the design and supervision, and a method of paying employers for placing students on industrial training in order to foster industrial attachment.

Addai (2017) stipulated further that there is evidence pointing to the fact that, Ghana and many other African countries have educational systems that are theoretical with less practical knowledge. Therefore, there have been increased pressure by stakeholders on universities and the industry to establish a connection between the two sectors because, it appears the demands of skilled and specialized manpower from the industry are not being met, as majority of students lack the necessary skill sets required by industry (Menezes & Pinto, 2016). This study therefore sought to explore the existing connection between Ghanaian university courses and the requirements of the industry. It also sought to explore how WIL can affect Ghanaian university students' future employment opportunities.

To give students real-world experience, educational institutions are under increasing pressure to include workplace training in their curriculum. Therefore, this study sought to explore how university courses in University for Development Studies (UDS) can be developed to meet industry requirements and to find out how the state can support work-integrated learning with a policy initiative in order to ensure state accountability.

1.2 Statement of the Problem

Skills development has become a top priority for policymakers in the current global context of severe economic issues. Until recently, governments have focused on increasing the number of people with post-secondary academic or vocational qualifications in order to address skills shortage in their economies. However, there is growing acknowledgment that policy-makers must also address the issue of skills from the demand side, as emphasized by the International Labour Organization (ILO, 2017) and the Organization for Economic Cooperation and Development (OECD,

2017). This entails comprehending the type of skills that industries require and promoting the best application of such competencies at work. Universities must now more than ever incorporate effective Work-integrated learning (WIL) into their curriculum.

Throughout the past few years, it has become apparent the higher education sector in Ghana has expanded. As a result, these institutions of higher learning annually graduate thousands of students. In a growing economy like Ghana's, it is without doubt that majority of students enroll in higher education in order to find employment. Getting a job in Ghana however has not been easy for many graduates due to the slow growth of the economy and the failure of universities to provide their students with the necessary knowledge and skills necessary to meet national needs and aspirations once they have successfully completed their studies. Even as job seekers express their discontent over unavailability of jobs, employers, on the other hand, perceive that most job seekers, particularly new entrants, are technically incompetent and unsuited for the world of work (Ghana Center for Democratic Development [CDD-GHANA], 2020).

According to recent media reports, many Ghanaians believe that the disconnect between university and industry is one of the main causes of graduate unemployment. They believe that Ghana‘s educational institutions mostly produce intellectuals who fail to address contemporary issues. The public, most of whom are stakeholders like graduates, parents, and guardians, have voiced various complaints about the high number of unemployed graduates in Ghana. They urge universities to address the issue of unemployment because they regularly question the level of quality of education universities offer their wards. Day in day out, such complaints are heard on

Ghanaian televisions, radios, and other social media platforms (NCTE, 2011). There is a great deal of interest in graduate unemployment as a result of the public's intense concern over the issue and the fact that the majority of them place the responsibility on universities.

In the year 2009, a national employment policy was drafted by the then Ministry of Employment and Social Welfare (2009) and it specified that Ghana's higher education system was proceeding to graduate an unskilled labour workforce for a job market with limited employment opportunities (Ministry of Employment and Social Welfare, 2009, as cited in Goode, 2017). Owusu-Ansah and Poku (2012) has emphatically stated that unless significant changes are made, it will be hard for higher education and Ghana by extension to achieve their goal of training a productive workforce with practical knowledge and skills to resolve the issues of joblessness and youth unemployment (as cited in Goode, 2017).

Noticeably, although universities in Africa are yearly expanding their enrolments there are still pertinent concerns about their ability to produce graduates who have employable skills. Between 2000 and 2010, enrolments of higher education institutions in Sub-Saharan Africa more than doubled, increasing from 2,344,000 to 5,228,000 (Africa-America Institute, 2015). It is the duty of the government to ensure that higher education institutions in the country provide ‗relevant education' (i.e. producing graduates with employable skills). The government of Ghana has tried to oversee the activities of tertiary institutions by establishing the Ghana Tertiary Education Commission (GTEC) which is tasked with the responsibility of regulating, supervising and accrediting tertiary institutions.

There are various viewpoints on the function of higher education, but Trede et al. (2012) has argued that one such function is to generate graduates who are prepared for the workforce. The current educational curriculum of numerous universities does not completely prepare students for the world of work, subsequently, quite a number of students face challenges transitioning from higher education to full-time work because the course contents do not reflect the need, aspirations and resource experiences of the society (Arthur & Flynn, 2011). Therefore, the majority of universities that discover they fall short in their responsibility to provide their students with employability skills have turned to making sure WIL is included in their curriculum. One way to improve employability in higher education is to incorporate WIL into the academic curriculum (The Quality Assurance Agency for Higher Education, 2009, as cited in Nixon, 2013).

Owusu-Ansah and Poku (2012) emphatically states that unless significant changes are made, it will be hard for higher education and Ghana by extension to achieve their goal of training a productive workforce with practical knowledge and skills to resolve the issues of joblessness and youth unemployment (as cited in Goode, 2017). In order to give students real-world experience, educational institutions are under increasing pressure to include workplace training in their curriculum. Additionally, the impact of educational institutions' failure to purchase the specialized equipment required to educate their students for the workplace could be lessened with the support of WIL.

It is anticipated that if University for Development Studies (UDS) incorporates WIL into its curriculum, its graduates will have employable skills, thereby increasing their chances of finding job right away after graduation. The government appears to have failed to make sure that some universities include WIL fully in their curricula, and such failure has resulted in graduate unemployment. This is currently a problem

in Ghana. The thesis of this study is, when University for Development Studies (UDS) include WIL into its curricula, graduates will be equipped with employable skills which will increase their chances of getting employment quickly after school. Therefore, this study sought to explore how university courses in University for Development Studies (UDS) can be developed to meet industry requirements and to find out how the state can support work-integrated learning with a policy initiative in order to ensure state accountability.

1.3 Purpose of the Study

The study sought to explore how university courses in University for Development Studies (UDS) can be developed to meet industry requirements and to find out how the state can support work-integrated learning with a policy initiative in order to ensure state accountability.

1.4 Objectives of the Study

The following objectives were formulated to guide the study to:

1. Explore the existing connection between university courses of University for Development Studies (UDS) and the requirements of industry.
2. Find out how work-integrated learning can affect University for Development Studies (UDS) students‘ future employment opportunities.
3. Explore how university courses of University for Development Studies (UDS) can be developed to meet industry requirements.
4. Explore how the state can support this innovation of work-integrated learning in University for Development Studies (UDS) with policy initiative in order to ensure state accountability.

1.5 Research Questions

The following research questions were formulated to guide the study:

1. What is the existing connection between university courses of University for Development Studies (UDS) and the requirements of industry?
2. How can work-integrated learning affect University for Development Studies (UDS) students‘ future employment opportunities?
3. How can university courses of University Development Studies (UDS) be developed to meet industry requirements?
4. How can the state support this innovation of work-integrated learning in University for Development Studies (UDS) with policy initiative to ensure state accountability?

1.6 Significance of the Study

Although, the state has guidelines for universities on how to ensure universities provide their students with practicalized learning, there is currently no policy/blueprint on WIL. As a contribution to policy, this study would assist policy makers to integrate WIL more explicitly into national education policies. It would also assist in aligning education policies with labour market and industrial policies. It would also assist in the review of accreditation and curriculum standards to make WIL a mandatory, assessable component of programmes. This study offers suggestions to the state on producing a clear-cut policy on WIL and the proposed content for such a policy.

As a contribution to theory, this study would demonstrate that WIL outcomes emerge from interactions among state, institutions, industry and students. As a contribution to methodology, this study would provide methodological integration of policy analysis

techniques into WIL research, where they are often underused. This study also proposes that all the activities that University for Development Studies (UDS) employ to ensure practicalized learning should be called with an umbrella term, work-integrated learning. This study sought to provide future researchers with information on the cultural practice of WIL in Ghana.

This study would contribute to the collaboration between University for Development Studies (UDS) and industry while providing the perspectives of industry on such a collaboration. This research suggests that, even though University for Development Studies (UDS) offer practice learning in some courses, there is no clear-cut detailed policy on the practice. This study adds to the practices undertaken by University for Development Studies (UDS) to offer its students opportunities to practicalize the theories taught. It also reveals the perspectives and expectations of students on the nature of education they receive from UDS.

1.7 Delimitation of the Study

This study focused on University for Development Studies (UDS)‘ readiness for WIL. According to Ghana Tertiary Education Commission (GTEC, 2023), there are 16 public universities, 10 public technical universities and 116 private tertiary institutions in Ghana, however, this study was limited to only the 16 public universities and the collaboration between them and industry and the accrediting body of the public universities, which is GTEC. Out of the 16 public universities, University for Development Studies (UDS) was selected for this case study because it is one of the very few public universities that offer engineering, medicine, teaching and nursing, which are the major fields in which WIL is mostly practiced.

At University for Development Studies (UDS) the study was limited to two departments of school of engineering, specifically final year students, past students and the teaching faculties of departments of Agricultural Engineering and Mechanical and Industrial Engineering. The study was also delimited to the industrial relations officer of the school of engineering. The school of engineering offers both undergraduate and post-graduate programmes, however, this study was limited to undergraduate programmes. Geographically, the school of engineering is located at Nyankpala campus of University of Development Studies (UDS) which is located at Tolon district of the Northern region of Ghana.

The study was also delimited to the Ghana National Petroleum Corporation (GNPC) because it is an employer of past students from School of Engineering, University for Development Studies (UDS). The study was also delimited to Ghana Tertiary Education Commission (GTEC) because it is a regulatory body of universities including UDS.

1.8 Operational Definitions

Key concepts in this study are operationally defined as follows:

1.8.1 State Accountability

Governments play a crucial role in shaping educational policies that align with societal needs and global standards. By formulating comprehensive policies, governments guide universities in curriculum development, pedagogical methods, and research priorities. Accountability lies not only in creating policies but also in ensuring their effective implementation. Regular evaluations and revisions of policies demonstrate a commitment to continuous improvement. State accountability therefore refers to the responsibility and obligation of the government and its agencies to ensure

that policies, resources, regulatory frameworks, and coordination mechanisms of WIL are designed, implemented, monitored, and evaluated in ways that enable educational institutions to deliver quality WIL outcomes.

1.8.2 Educational Institutional Readiness

Educational institutional readiness refers to the extent to which an educational institution possesses the organizational, human, structural, curricular, and relational capacity to effectively design, implement, manage, and evaluate WIL programmes in line with policy requirements and labour-market expectations.

Academics must possess a wide range of knowledge and abilities in order to carry out their work in a way that ensures that placements are: educationally effective, ethical and legal; safe for students, the host organization, and their clients; and enhances partnerships and collaboration between the community, university, and industry (Cooper et al., 2010). For academics who are new to the position, certain universities have developed official professional development programmes. The academic staff's readiness to adopt WIL is another aspect that affects how prepared universities are for it. The dedication of academic staff to supporting students and offering direction throughout the learning process is essential to WIL's success. Universities also need to have procedures in place to honour and reward academic staff members who promote WIL. Universities must have WIL promoting and recognized policies to facilitate the implementation of WIL. The requirement for a precise definition of WIL and its objectives is one of the policy consequences. To ensure that everyone understands what WIL is, this definition should be widely distributed to academic staff, students, and industry partners.

1.8.3 WIL

WIL is an umbrella word for a variety of methodologies and strategies that combine theory with the practice of work within a consciously constructed curriculum according to Universities Australia (2015). Students learn through active engagement in purposeful work tasks, which enable the integration of theory with meaningful practice that is relevant to the students' discipline of study and/or professional development (Zegwaard & Pretti, 2023).

1.8.4 Work-readiness

According to Yorke (2010) employability is a set of abilities that are required but insufficient for finding employment, whereas work-readiness is a set of circumstances sufficient for landing a job at first. Whatever word is used, it is preferable to take a comprehensive approach and remember that in order to improve their prospects of finding employment, graduates must also be work-ready (Sachs et al., 2017). Johnson et al. (2014) presents solid proof that WIL does improve students' work-readiness.

1.8.5 Employability Skills

With regards to students, WIL specifically aims to increase graduates' employability by providing them with useful practical experience that is closely relevant to university courses being studied. With WIL, committed students acquire specific skills and knowledge in the workplace as well as in the classroom since WIL works under the assumption that not every skill can be acquired in the classroom or workplaces, yet through a blend of both (Atkinson, 2016). With regards to students, WIL specifically aims to increase graduates' employability by providing them with useful practical experience that is closely relevant to university courses being studied. With WIL, committed students acquire specific skills and knowledge in the workplace

as well as in the classroom since WIL works under the assumption that not every skill can be acquired in the classroom or workplaces, yet through a blend of both (Atkinson, 2016). WIL can also provide students with knowledge about an occupation or trade outside what is taught at the education institution, providing introduction to a particular workplace, occupation or industry (Atkinson, 2016). WIL programmes that are effective improve student learning and raise their prospects of finding employment after graduation (Abeysekera, 2006). WIL can likewise work with the establishment of occupational or industry networks and has the potential for work after course completion; there is additionally an opportunity for students to acquire an improved understanding of workplace culture and professionalism.

Employability, however, will be defined by the employer as having the necessary abilities to enable an employer to contribute to the firm's overall goals shortly after beginning work (Mason et al., 2009, as cited in Kir et al., 2021). There has been research that give significant proof of the connection between employability skills (a synergic combination of personal characteristics, skills of different sorts and subject understanding) and recruitment (Knight & Yorke, 2003 as cited in Fulgence, 2015). Fulgence (2015) further expresses that employability skills foster students' work experience, yet in addition improve the development of delicate skills that are more demanded in the realm of work.

A graduate who possesses employability skills can be viewed as being future, career, and work-ready. A future-ready graduate has the skills and capabilities to continue learning, contribute, and be adaptable as a citizen of a changing world and their communities.

1.9 Organization of the Study

The study is organized into five chapters. Chapter One (1) discussed the introductory portions of the study. It covers the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, delimitations of the study, operational definitions and organization of the study. Chapter Two (2) presented the literature review of this study through conceptual framework, empirical studies and theoretical framework. Chapter Three (3) of this study outlined the methodology employed in the collection and analysis of data. Chapter Four (4) contained the results of analysis of empirical data collected and discussion of results obtained. Chapter Five (5) presented summary, conclusions, and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

A review of the literature pertinent to this topic is presented in this chapter. Three different approaches have been taken to this review. To establish the theoretical basis of this research, the following concepts have been discussed in this chapter: ~~–t~~he existing connection between students and industry", ~~–e~~ffect of WIL on students' future employability", ~~–d~~eveloping university courses to meet industries' requirements", and ~~–s~~tate support for WIL with policy initiative". The empirical studies related to this study have been fused into the review of concepts. Finally, three theories have been discussed: the human capital theory, the consensus theory, and the experiential learning theory.

2.1 The Need for Linking University Courses to Industry Requirements

Every country relies heavily on the acceleration of economic growth and technological advancement. Strong ties between university and industry are necessary for a nation to consistently advance its economic and technological growth (Bawakyillenuo et al., 2013). The rapid pace of technological advancements and the ever-changing landscape of industries have underscored the importance of aligning university courses with the dynamic needs of the workforce. The traditional model of education, with its focus on theoretical knowledge, is increasingly being challenged as employers seek graduates with practical skills and the ability to adapt to real-world challenges. A review of prior research from numerous countries generally indicates that there are some gaps between employer expectations and the skills students possess upon graduation (Kenayathulla et al., 2019; Succi & Canovi, 2019). In order

to gather information that might be useful for revising curriculum and ensuring that agricultural training institutions are able to produce graduates who are better suited for the job market, Taabazuing (2010) conducted a study to trace agriculture graduates in Ghana from 1993 to 2008. Taabazuing (2010) discovered that agricultural graduates' training frequently placed a greater emphasis on theory than on the practical implementation of the theories. Additionally, he discovered that the knowledge and abilities that agriculture graduates receive and what is needed by employers are not aligned.

Employers continue to assert that recent graduates lack the soft skills required to be job-ready (Clarke, 2018; Moore & Morton, 2017). These results highlight the necessity of ongoing curriculum revisions in higher education to reflect the dynamic skill requirements of business and industry, which are constantly evolving. There is currently a gap between educational programmes and the requirements of the industry. Schwab (2014) recommends more internship and apprenticeship opportunities as well as programmes for graduates to learn on the job in order to close the knowledge gap between academics and industry. Therefore, graduates' capacity to land respectable positions and forge career trajectories is heavily reliant on their possession of the relevant knowledge, abilities, and skills (Rizvi et al., 2013). The ultimate goal of education is not just to impart knowledge but to prepare students for successful careers. When universities align their courses with industry requirements, they enhance the employability of their graduates. Employers are more likely to value candidates who possess practical skills and relevant experiences. By integrating internships, industry projects, and real-world applications into the curriculum, students gain hands-on experience that makes them more attractive to potential

employers. The integration of the variety of strategies to ensure students have the opportunities to practice the theories they learn in the classrooms is often referred to as WIL.

Governments all over the world are dedicated to improving graduate rates. One of the many programmes that Higher Education Institutions (HEIs) might create to encourage student graduation is WIL. For students, workplaces, professions, and communities as a whole, WIL can be incorporated into curriculum design and development (Dorasamy & Rampersad, 2018). Bridging the gap between university courses and industry requirements is not only essential for the employability of graduates but also crucial for fostering innovation and sustaining economic growth. There is ample evidence of significant unemployment in Ghana, particularly among graduates, as many job searchers lack the necessary skills to find and keep employment. The private sector is gradually taking over the provision of work in the modern world, making the job seeker's personal awareness and competencies increasingly important. One of the primary reasons for linking university courses to industry requirements is to address the pervasive skills gap. As industries evolve and adopt new technologies, the demand for specific skill sets increases. Traditional academic programs often struggle to keep pace with these changes, leaving graduates ill-equipped for the demands of the job market. By aligning curriculum with industry needs, universities can ensure that students are equipped with the skills and knowledge that are directly applicable to the workplace.

It is necessary that higher education institutions in developing nations, for example, Ghana recognize that there are huge advantages to both them and other stakeholders when they team up with industry to train well-equipped workforce to assemble a

vibrant local market economy (Goode, 2017). The synergy between academia and industry is a catalyst for innovation. When university courses are linked to industry requirements, students are exposed to the latest technological advancements and real-world problems. This exposure not only enhances their problem-solving skills but also inspires innovation. Collaborative research initiatives between universities and industries can lead to breakthroughs that drive economic growth and competitiveness. The collaboration between universities and industries is mutually beneficial. Industry partners can actively contribute to curriculum development, ensuring that students are exposed to the latest technologies and methodologies. Simultaneously, universities can provide research and development support, producing graduates who are not only well-trained but also well-versed in cutting-edge practices. Strong industry-academia partnerships create a win-win situation, fostering a more symbiotic relationship between education and the workforce.

2.1.1 The Concept of WIL

WIL is an umbrella word for a variety of methodologies and strategies that combine theory with the practice of work within a consciously constructed curriculum, according to Universities Australia (2015). WIL is defined as "an educational approach involving three parties - the student, educational institution, and an external stakeholder - consisting of authentic work-focused experiences as an intentional component of the curriculum (Zegwaard & Pretti, 2023). Students learn through active engagement in purposeful work tasks, which enable the integration of theory with meaningful practice that is relevant to the students' discipline of study and/or professional development (Zegwaard & Pretti, 2023).

WIL at university is about the conscious action of integrating theory of learning with the practice of work. In WIL, students go through conventional academic learning at the tertiary level and combine this learning with time spent in a relevant workplace or industry setting (Fleming & Hickey, 2013). The practice of WIL at universities today is seen more in professional degree programmes (like teaching, medicine, law and engineering), that have strong occupational links. This assertion is seen clearly in the current practices of WIL at some universities in Ghana.

A critical observation of Ghanaian universities reveals that WIL is a priority often for universities whose core mandate is to produce students with professional degrees that have strong occupational links such as medicine, law, engineering and nursing); the University of Education, Winneba (UEW), is an example of such universities. The University of Education, Winneba, for instance has an internship secretariat that regulates its internship programme. On the other hand, most of the universities in Ghana whose core mandates do not border on equipping students with professional degrees prioritize WIL often for professional degree programmes that have strong occupational links. Other fields of study, like finance and agriculture, have far weaker connections to particular occupations (Wheelahan et al., 2012). There is at present an advocacy around the globe to expand WIL's uptake in other disciplines; notwithstanding, the resource implications are critical, as it takes a lot of time and exertion with respect to teachers and education providers to foster partnerships with employers, and broker and facilitate successful WIL opportunities for students (Atkinson, 2016).

2.1.2 Forms of WIL

Off-campus internships, industrial attachments or placements are "the most widely reported and accepted form" of WIL, according to Rowe et al. (2012) and are regarded as "ubiquitous" (Gardner & Bartkus, 2014). WIL is thus still frequently misconstrued as a straightforward internship or work placement. To accommodate a wide range of activities with a strong focus on industry relationships, higher educational institutions are adopting the term "WIL" in a broader sense than only internships or placements (MacDonald et al., 2014). In addition, Lawson et al. (2011) developed a typology of WIL that includes industry simulation, industry practitioner delivery, industry mentorship, industry study tours, industry placement/attachment, industry competition, and industry projects. Although the internship is the primary WIL activity to be investigated in this study, additional WIL activities that include collaboration with industry will also be covered.

There are a number of possible models for a WIL programme, such as mentored employment, university/industry research, supervised work experience, customized accredited workplace learning, enterprise development and entrepreneurial programs, and simulations. WIL at university can occur in a variety of ways, from minimal engagement and ad hoc arrangements to full integration into the degree, which is both assessed and accredited (Atkinson, 2016). Examples of WIL practice includes off-campus, workplace immersion activities such as work placements, internships, practicum, service learning, and cooperative education (Co-op), and on-campus activities such as work-related projects/competitions, entrepreneurships and student-led enterprise (Zegwaard & Pretti, 2023). Antwi et al. (2019) describe cooperative education as an activity in which students seek internships with organizations where

skills gained in the classroom can be applied. According to Nevison et al. (2016) and Holmes (2013) there are a few researchers who have intimated that cooperative learning is one way through which higher education institutions could furnish students with WIL and eventually staying relevant. Cooperative education is considered as an example of how universities can provide their students with WIL (Fleming & Hickey, 2013).

Whereas the International Journal of WIL views the domains of experiential learning, work-based learning, and vocational education and training as similar to yet distinct from WIL (International Journal of Work-Integrated Learning [IJWIL], 2023). Atkinson (2016) opines that experiential learning, work-based learning, professional learning, and cooperative education are all used interchangeably and broadly refer to both placement and non-placement WIL. Placement WIL comprises practicums, internships, and work placements where students get firsthand experience in a working environment. Non-placement WIL connects students with industry in an authentic learning experience on a campus setting, such as industry-based projects and simulations. Professional practice capabilities are what both types of WIL are meant to help students build (Pilgrims, 2012).

At the university, most WIL occurs at undergraduate degree levels, but it can also occur at postgraduate levels. Atkinson (2016) groups the variety of WIL under three major forms; placements, simulations and industry projects (Atkinson, 2016). WIL at the university, has been undertaken in two discrete forms. The primary type of WIL is the point at which it has been completely fused in certain programmes, while in the second form it is treated as a different subject despite the fact that it is considered as a prerequisite to the successful fulfillment of the said programme (Atkinson, 2016). As

far as WIL being considered as a different subject in a programme at the university, it is normally seen as a distinct component of the learning experience or as an intrinsic part of the entire learning experience, although this varies by discipline (Atkinson, 2016).

There have been several models put forth for an optimized WIL programme but it is debatable whether a specific model is best for placements with various timespans (Calway & Murphy, 2011). The duration of WIL placement, for instance, can range from one two weeks to one year among the various disciplines. Full-time versus part-time placement can also be an issue (Lee et al., 2011; Levett-Jones et al., 2009; Staniforth, 2009; Lawson et al., 2011). A WIL study conducted in New Zealand revealed that while 71% of students on part-time sports science placements were happy with the programme‘s non-continuous structure, 75% of respondents in regional sports trusts preferred to work full-time in order to gain more professional experience (Fleming & Eames, 2005). According to Atkinson (2016) placements which can include clinical placements, fieldwork, practicums, internships and cadetships immerse students into a workplace for a period of time. There are some placements that are integrated into the curriculum and form part of the formal assessment; others are informal arrangements, yet potentially a requirement of the course. Placements can vary in length from six or twelve-month semester-based placements and vacation placements of two to three months duration, to shorter experiences of one to three weeks. Placements can be full-time or part-time.

Internships, simulations, industry projects and industrial attachments are all examples of WIL experiences. According to Abeysekera (2006) an internship is any carefully supervised work or service experience in which a student has intentional learning

goals and actively reflects on what is being learned throughout the experience. According to Inkster and Ross (1998) an internship is a "three-way partnership between the educational institution, the student intern, and the organization where the interns take on the challenges of a programme of systematic experiential learning" (p. 6). During an internship programme, the student, the academic supervisor, and the workplace supervisor as an employer or community partner are the three main stakeholders. These partners each profit significantly from internship courses. Students acquire practical experience, academic courses increase their standing, and employers have a larger pool of student candidates to choose from when hiring for full-time positions (Patterson, 1999).

Simulations in the university are experiential learning experiences that engage students in analysis and decision-making in real work situations in an educational setting. Simulations are most effective and advantageous to students when they are viewed as a realistic experience of the workplace or the business climate (Atkinson, 2016).

Industry projects are projects which normally include the types of work undertaken in the working environment and can incorporate the development of a product or a research project. Projects can be conducted by individual students or a group. For these types of projects to be fruitful, students ought to be appropriately matched with industry partner projects to guarantee that both parties have a significant experience. Projects commonly run for a semester and normally form part of the coursework and assessment (Atkinson, 2016).

Industrial attachment describes the form of learning whereby students have a chance to acquire and apply knowledge, skills and feelings in an immediate and relevant setting through the engagement of the body and mind through activity, reflection and application which tends to provide depth and meaning to a learning/training system (Dondofema et al., 2020). Dondofema et al. (2020) stipulates that during the industrial attachment phase, the student is accorded an opportunity to marry theory learnt in the classroom with the real field of work.

2.1.3 Benefits of WIL

WIL has quite a number of benefits to its stakeholders; students (graduates), universities and employers. With regards to students, WIL specifically aims to increase graduates' employability by providing them with useful practical experience that is closely relevant to university courses being studied. With WIL, committed students acquire specific skills and knowledge in the workplace as well as in the classroom since WIL works under the assumption that not every skill can be acquired in the classroom or workplace, yet through a blend of both (Atkinson, 2016). WIL can also provide students with knowledge about an occupation or trade outside what is taught at the education institution, providing introduction to a particular workplace, occupation or industry (Atkinson, 2016). WIL programmes that are effective improve student learning and raise their prospects of finding employment after graduation (Abeysekera, 2006). WIL can likewise work with the establishment of occupational or industry networks and has the potential for work after course completion; there is additionally an opportunity for students to acquire an improved understanding of workplace culture and professionalism.

WIL enhances productivity results for industry and the economy as well as smoothing transition from university to the workplace (Atkinson, 2016). Programmes for WIL assist in giving students the opportunity to gain experience before they officially start work. This is good for employers since they prefer employees who have prior experience. By keeping an eye on how challenging the tasks they have been given are, and by helping the students foresee their mistakes through conversation, demonstrating acceptable behaviour, and giving them constructive criticism, supervisors can help students acquire professional jobs. WIL programmes increase accountability across all professions. Supervisors play a crucial part in ensuring that students are equipped to handle a variety of circumstances. Students' maturity, values, and readiness for the workforce are evaluated. Supervisors play the part of a gatekeeper (Bates, 2005).

WIL gives educators (universities) the opportunity to quantify the attainment of learning outcomes in a real, quantifiable way (Jackson, 2010; Whelan, 2017a). WIL focuses on deepening classroom conceptions, applying skills and making the curriculum more significant to students (Orrell, 2011). WIL programmes also assist higher education institutions by strengthening their relationships to industry, expanding their access to grant and sponsorship funds, and attracting better students thanks to a stronger competitive edge (Eames, 2003; Smith, 2012). In a rapidly changing world, the ability to adapt and learn continuously is crucial. Linking university courses to industry requirements encourages a culture of lifelong learning among students. Graduates who are accustomed to staying updated with industry trends and acquiring new skills are better positioned to navigate the uncertainties of the job market. This adaptability is increasingly becoming a valuable trait in the

modern workforce. Despite having a great deal of potential, WIL's value to students, industry partners, and higher education institutions depends on a number of variables, such as the level of resources (i.e., funding, the presence of a project coordinator, the effectiveness of participant communication), how well students are matched to projects, and the use of evaluation and reflection tools to improve them.

2.2 Existing Connection between University and Industry

According to Addai (2017) there is at least some collaboration between the academic community and industry in Africa. The University of Education, Winneba, as an example requires a supervised industry attachment as part of its teacher education programmes. As a result, they can go out and help their students get ready for success in higher education and the workforce. This allows student teachers the chance to connect theory to practice (Donkor et al., 2009). This means there is a considerable connection between the University and the teaching profession.

In recent times, most universities are getting involved in research as an innovative source to generate knowledge that has diffused to the industry (Mafu, 2023). University-Industry Collaboration (UIC) has a long history as a tool for establishing the knowledge stock of organizations. University-industry collaboration (UIC) refers to the interaction between any parts of the higher educational system and industry aiming mainly to encourage knowledge and technology exchange. Over the years, there have been mounting societal pressures for universities and industry to collaborate. The pressures on both sides have created an increasing stimulus for the development of UIC aiming to increase innovation and economic competitiveness in corporate levels through knowledge exchange between the academic and commercial fields (for example, countries and sectors). Besides, UIC is deemed as a promising

tool generally in order to increase the organizational capacity in open innovations in the points where an organization uses external networks in innovation and knowledge development as a supplementary option for traditional internal R&D. Ghana's aspiration to pursue innovation-led economic and social development has led to growing interest in UIC. For instance, Ghana's development policy, the industrial policy and National Science, Technology and Innovation (STI) policy (2017-2020) all encourage collaboration between universities and nonacademic stakeholders, such as industry partners, working to realize the innovative capabilities of the country and its economic development (Akufo-Addo, 2017; Ministry of Environment, Science, Technology and Innovation, 2017; Tetteh, 2011). However, Mensah and Gordon (2020) asserted that research from most universities in Ghana does not seem to align with national development priorities because of outdated policies and institutional systems for STI, ineffective collaborations between universities and industry and inadequate incentives to encourage such collaborations and interactions.

According to HCRC (2009) the industry's invested interest is in influencing the school curricula in such a way that properly captures academic standards and current career-ready set of competencies of that particular industry. An industry partner can serve the following curriculum development functions: (1) help lecturers keep the curriculum relevant to industry expectations, (2) help to identify experiential work-based learning and mentorship opportunities for students that are consistent with curriculum, (3) actively participate in steering committees to enhance curricula and student achievement, (4) provide in-kind matching for state and private grants to enhance curriculum, (5) conduct evaluation on curriculum and its delivery in order to properly assess and modify curriculum; evaluation also

helps to maintain and sustain program projects over time, (6) strengthen career and college pathway by linking the integration of academic instruction and career and technical education to real jobs, and (7) provide guest lecturers to share their professional expertise with students and give credibility to the curriculum (HCRC, 2009).

Addai (2017) stipulated further that there is evidence pointing to the fact that, Ghana and many other African countries have educational systems that are theoretical with less practical knowledge. Therefore, there have been increased pressure by stakeholders on universities and the industry to establish a connection between the two sectors because, it appears the demands of skilled and specialized manpower from the industry are not being met, as majority of students lack the necessary skill sets required by industry (Menezes & Pinto, 2016). Addai (2017) continued by indicating that unless the disconnection between higher education and industry has been addressed, graduate unemployment will continue to be predominant within the continent.

However, there is evidence that the educational system in Ghana and many other African nations is largely theoretical and imparts little practical knowledge. Graduate unemployment will continue to be a problem across the continent unless the gap between higher education and industry is closed. Addai (2017) advised African universities to swiftly implement procedures for the reformation of assessment and the curriculum overall. As unemployment rises and the need to ensure a knowledge-driven economy is becoming murkier, important players in education have expressed serious worry about the claims made by academics regarding the gap between academia and industry.

2.3 Effect of WIL on Students' Employability

To boost industrial productivity, the Association of Ghana Industries (AGI) cries out for graduates with the necessary credentials (Quayson et al., 2022). The Ghana Industrial Policy developed by Ministry of Trade and Industry (MOTI) (2010) has acknowledged the issue of the lack of qualified human resources in Ghana, which affects all areas of industrial growth. Therefore, Ministry of Trade and Industry (2010) advocated for the urgent necessity to assist tertiary institutions in order to provide the labour force of the country with the skills necessary to ensure sustainable industrial productivity and growth. Although the mismatch between graduates' skill sets and what employers need has been extensively acknowledged and documented in Ghana, there are few thorough empirical analyses examining the phenomenon's existence and scope as well as its underlying causes.

In 2009, a national employment policy was drafted by the then Ministry of Employment and Social Welfare and it specified that Ghana's higher education system was proceeding to graduate an unskilled labor workforce for a job market with limited employment opportunities (Ministry of Employment and Social Welfare, 2009, as cited in Goode, 2017). Owusu-Ansah and Poku (2012) emphatically states that unless significant changes are made, it will be hard for higher education and Ghana by extension to achieve their goal of training a productive workforce with practical knowledge and skills to resolve the issues of joblessness and youth unemployment (as cited in Goode, 2017). In order to give students real-world experience, educational institutions are under increasing pressure to include workplace training in their curriculum. Additionally, the impact of educational institutions' failure to purchase

the specialized equipment required to educate their students for the workplace could be lessened with the support of WIL.

The conceptions of being employable have evolved over the past years from being primarily focused on technical skills and traits that graduates are thought to need in order to be considered work-ready to a more inclusive concept that includes non-technical areas like networking and professional identity (Bridgestock, 2017; Zegwaard et al., 2017). Employability, however, will be defined by the employer as having the necessary abilities to enable an employer to contribute to the firm's overall goals shortly after beginning work (Mason et al., 2009, as cited in Kir et al., 2021). According to Peter-Brown (2022) 12% of Ghana's youth are unemployed, while more than 50% are classified as underemployed. With a 2020 youth unemployment rate of 7.8% compared to 5.8% globally, Ghana has a higher youth unemployment rate than all other Sub-Saharan African nations (Peter-Brown, 2022).

Accordingly, Freudenberg et al. (2010) suggest that, one technique that could further develop students‘ work readiness and ability to move hypothetical information into the practical implementation, is WIL. WIL has for a long time been viewed as an authentic experience that fosters graduates' employability skills and has great advantage to students (Patrick et al., 2008; Smith et al., 2014). Evidence from Skorikov and Vondracek (2011) suggests that work experience adds to the forming and articulation of one's identity. In this manner, students have the chance to integrate learning with practical insight from the field of work. This may assist with solidifying students‘ skills required in future job roles which will expose them to work place skills (Antwi et al., 2019). WIL may play a part in enhancing employability skills in higher education. It brought attention to the necessity of: enhancing and expanding

access to WIL; encouraging employers to offer organized cadetships; and specifically disclosing the employability skills displayed through WIL (Business Industry and Higher Education Collaboration Council [BIHECC], 2007). WIL is a tactic that can be used to boost national productivity, solve the rising skills gap, and improve students' incomes while they are in school (Universities Australia, 2015).

Nevison et al. (2016) conducted a study on WIL which revealed that students who take part in WIL demonstrate reflective and integrative behaviors essentially more than their friends who do not participate in any form of WIL. Employers are presently demanding that graduate applicants have relevant experience, proof of work-readiness and the non-technical skills to work effectively in the working environment (Edwards et al., 2015). This is especially significant for organization to be inventive and stay competitive in global markets (Price Waterhouse Coopers [PwC], 2016). In the current global context of complex economic difficulties, skills and employability have arisen as areas of high priority for policy-makers (Comyn & Brewer, 2018). In response to employers‘ demand for work- ready graduates with significant work experience universities are progressively zeroing in on fusing WIL into undergraduate programmes across an expansive scope of many disciplines (PwC, 2016). The role of WIL facilitators is to get students ready for their future work roles and such readiness incorporates disciplinary knowledge and technical skills as well as insight about how to work in a team, speak with others, and learn tacit ways of working through observations and socializing into workplace cultures (Trede et al., 2012). Hence, Trede et al., (2012) depicts WIL as helping students to foster a sense of professional identity and draw in with issues of professionalism which can improve workplace learning experiences and fortify a sense of purpose and focus to WIL.

There has been a surge in the quantity of research being led on the best way to bridge the gap between universities and industries in order to equip graduates with employable skills. As of late, there has been an increased spotlight on WIL in university education as a method of reinforcing universities‘ engagement with employers (Atkinson, 2016). Today, quite a number of universities are currently incorporating WIL programmes into their curriculum with the determination to upgrade graduates‘ employment prospects that is based on their acquisition of requisite skills for the job market (Holmes, 2013).

The impact WIL has on students cannot be overemphasized, in that, it instigates students to be productive and to accomplish real work that converts into social and economic qualities (Govender & Wait, 2017). According to Antwi et al. (2019) the researcher De Lange (2004) notes that it is not useful to the student and even the university to permit the student to ―wade through muddy waters" to discover real confidence in a job that gives them pertinent roles custom fitted for their future careers. Subsequently the idea of WIL has been commended by numerous researchers for fastening the feet of students on the firm grounds of the world of work (Antwi, et al., 2019).

2.3.1 Employability Skills of Graduates in Industry

Concerns pertaining to graduates' preparation for the workforce have been raised in several studies over the past years, although not because graduates lack disciplinary knowledge, but rather because graduates lack general employability skills (ACCI/BCA, 2002; ACNielsen Research Services, 2000). In the past, however, higher education has not been thought of as a way to enhance economic growth and development, according to scholars who have debated the role it plays in ensuring a

nation's economic growth (Pillay, 2010, as cited in Bawakyillenuo et al., 2013). Higher education's role in an economy's growth and development has been neglected as a result (Pillay, 2010, as cited in Bawakyillenuo et al., 2013). This neglect has negatively impacted the growth and development of the economy in question.

In order to confirm the applicability of information and skills acquired by engineering graduates from universities to the automobile industry, Chan and Balaraman (2017) conducted a qualitative case study approach to examine and contrast information gathered from an automotive manufacturing industry, a public university, and a private engineering college. The study highlighted the crucial part that universities, new engineers, and industry play in enhancing new engineers' knowledge and skill acquisition for improved job competency at the start of their careers in industry. The findings showed that some characteristics strongly correlated with both job performance and a university education. Students' attitudes, interpersonal skills, lack of manufacturing knowledge, lecturers' exposure to the industry, collaboration between universities and industry, poorly executed internships, inadequate training needs analyses, and incompetent industry coaches were among the characteristics that had a significant impact on how well new engineers handled the challenges of the job.

Employability skills of recent university graduates have come under scrutiny from university administrators, employers, government ministries, graduating students, and other stakeholders due to rising graduate unemployment and underemployment (Clarke, 2018; Flanagan et al., 2021; Römgens et al., 2019; Sin & Amaral, 2017; Small et al., 2018; Succi & Canovi, 2019; Suleman, 2018). Some previous studies have revealed discrepancies between the skills students possess at graduation and the skills employers expect for initial employment (Ayoubi et al., 2017; Baharun et al.,

2012; Hosain et al., 2023; Moore & Morton, 2017; Osmani et al., 2021). According to several employers, recent university graduates are not prepared for the workforce (Abelha et al., 2020; Griffiths et al., 2018; Osmani et al., 2021).

Research on employability skills is significantly lacking in the Ghanaian setting (Winful et al., 2022). Despite the dramatic growth in graduates in Ghana, the question of whether universities can provide graduates with work experience and skills has not yet been thoroughly addressed (Damoah et al., 2021). However, according to Ananga and Anapey (2016) graduate unemployment in Ghana is not due to a lack of work prospects but rather to graduates' lack of employability skills. Employability and the idea of work-readiness are frequently used interchangeably. According to Yorke (2010) employability is a set of abilities that are required but insufficient for finding employment, whereas work-readiness is a set of circumstances sufficient for landing a job at first. Whatever word is used, it is preferable to take a comprehensive approach and remember that in order to improve their prospects of finding employment, graduates must also be work-ready (Sachs et al., 2017).

2.3.2 Employers' Requirements of Graduates

Employers focus on various reasons to either recruit or reject a job applicant. One of such reasons incorporates relevant experience and learning abilities (Fulgence, 2015). There has been research that give significant proof of the connection between employability skills (a synergic combination of personal characteristics, skills of different sorts and subject understanding) and recruitment (Knight & Yorke, 2003, as cited in Fulgence, 2015). Higher education institutions guarantee that their alumni are most likely to be employed when they combine employability skills into their curriculum (Harvey, 2001, as cited in Fulgence, 2015).

Employers consider a lot of methods, for example, considering the candidate's work experience during the application process (Fulgence, 2015). As indicated by Fulgence (2015) employers value job applicants who were submerged in as he calls it employability skills development programme (like communicational skills, attitude and behavioural skills) by their different higher education institutions. Fulgence (2015) further expresses that employability skills foster students' work experience, yet in addition improve the development of delicate skills that are more demanded in the realm of work.

A graduate who possesses employability skills can be viewed as being future, career, and work-ready. A future-ready graduate has the skills and capabilities to continue learning, contribute, and be adaptable as a citizen of a changing world and their communities. A work-ready graduate is prepared with a set of skills, knowledge, and experiences to transition seamlessly into the workforce after graduation, whereas a career-ready graduate has transferable skills and knowledge to manage their own way through the changing world of work (Victoria University, 2007). WIL is used to improve student development and employability by connecting students and institutions with employers and, in doing so, can contribute value for those employers, as noted by Atkinson (2016).

2.3.3 WIL and Graduates' Employability

According to Tomlinson (2012) the highly uncertain and competitive labor market and other market forces like local and global competition (Godat et al, 2007; Fong & Sims, 2010) there is now a greater emphasis on graduate employability strategies in higher education (Jackson & Wilton, 2016). It has been demonstrated that WIL effectively develops graduates' career-related skills (Tomlinson, 2012). WIL has

been enthusiastically adopted by several universities, and WIL goals have been included in their strategic plans (Stewart & Owens, 2013). Significant obstacles prevent WIL's widespread adoption. In WIL, students collaborate with industry and community partners on activities that are planned for assessment, including building students' real-world experience and awareness of both market and career pathways (Cooper et al., 2010).

WIL is regarded as a crucial tactic for enhancing graduate employability. Graduate employability is a complicated notion that has recently expanded to include a wide range of abilities, characteristics, and other indicators including networks, professional identities, and active citizenship (Zegwaard et al., 2017). With the goal of improving graduate employment chances, numerous universities in Australia, New Zealand, and the UK are incorporating WIL programmes into their degree programmes. This viewpoint frequently rests on the notion that universities can (and ought to) generate graduates who are "work-ready" or "employable" (Holmes, 2013).

The literature reveals the impact of WIL on the development of employability capabilities as a recurrent theme, supporting recent advancements in the evaluation of WIL initiatives and programmes (Hall et al., 2017; Lloyd et al., 2019; Messum et al., 2017; Reddan & Rauchle, 2017). The fact that more universities are expanding WIL into fields like the arts and humanities rather than just disciplines with a long history of practice-based education (such as education, medicine, nursing, and engineering) is evidence of this. Johnson et al. (2014) presents solid proof that WIL does improve students' work-readiness. Students have the chance to see how theory functions in practice through internship programmes. Due to the fact that it would appear that employers prefer to hire graduates with training experience, internship courses assist

students in getting employment sooner. Most academic institutions today tend to include an internship component in their academic curriculum, providing internship programmes the prominence they deserve (Karunaratne & Niroshani, 2019).

Many universities already have a solid foundation for integrating graduate skills into the curriculum to help students become more prepared for the workforce or career advancement, and some are primed to do even better in this area. WIL, a methodology that fundamentally "integrates [the] theory with practice of work within a purposely designed curriculum," has been a key strategy for improving students' employability skills (Patrick et al., 2008).

In this context, the case study by Bates and Hayes (2017) in criminology demonstrated how employability may be included throughout a university degree programme. In order to help students, develop an early understanding of their career alternatives, the authors stressed the value of scaffolding employability before, during, and after their time at university. A framework for employability was presented to show how this might be done in practice through career development education, links with industry, and student actions at four crucial career transition stages for students: transition towards, in, though, and up. The employability framework is an important contribution to WIL scholarship and was created to be used as a tool across disciplines.

2.4 Developing University Courses to Meet Industry's Requirements

According to numerous studies, the swift industrialization and development of nations like China, India, Singapore, Brazil, among others, can be linked to strong linkages between academia and industry. According to Wong et al. (2007) enhancing the collaboration between academic institutions, industry/labor markets, and government

is a way to improve these countries' capacity for innovation. As a result, industries in these countries are placing a greater emphasis on establishing relationships with universities that are related to the creation of programmes, the hiring of graduates, internships, and consulting.

Universities typically exercise greater control or authority over the content, types of learning activities, and results that clearly meet the academic criteria because they serve as the accrediting authorities. While this system works well for the university's interests, it is insufficient for the demands of the workforce and students. Potentially, the needs of all three parties could be better met by a collaborative WIL design. But a lot of universities find it difficult to let go of the almost ideological attachment to the pedagogical [or traditional] model (Knowles, 1980, as cited in Johnston-Wilder et al., 2018). WIL is organized to elicit changes in people as well as their workplaces in order to achieve conceptual change as a learning goal (Biggs et al., 2022). WIL is embodied in the context of work.

2.4.1 Methods of Developing University Courses to Meet Industry Requirements

The methods used by universities to integrate WIL into their curriculum vary. Some universities place a strong emphasis on community involvement, particularly with their own local community, as a key factor in encouraging WIL (McLennan & Keating, 2008). A WIL programme must follow best practice guidelines and undergo regular evaluation by all programme respondents, including students, teachers, and site supervisors, in order to be successful (Abeysekera, 2006).

The following are the ten guidelines that were generated by Stirling et al. (2016) and can be considered to be requirements for all WIL programmes. The activity should, first and foremost, be advantageous to all stakeholders. Second, learning at

the workplace needs to be regarded as a crucial component of the curriculum. Next, it is important to specify the intended learning objectives, which should include generic qualities. The integral part of the activity should also include critical reflection on what can be learned from experiences in the workplace. Another rule is to make sure that assessment tasks highlight authentic products and processes and appropriately reflect the desired learning objectives. The need for well-defined evaluation criteria, such as levels and standards, is another rule. Therefore, the activity must be appropriately planned by all parties, and universities should make sure that students are given help at the workplace. Universities should keep in mind when creating WIL programmes that the activity's quality should be subject to continuous improvement and that the activity should have adequate funding (Keating, 2006).

A WIL curriculum's creation depends on sincere collaborations between universities and employers. According to Choy and Delahaye (2011) effective WIL is predicated on a learning partnership where the responsibilities for the curriculum and pedagogy are actually shared. In re-alignment of university curriculum to meet industry requirements, it is important to note that few employers might want to be more associated with the design and conveyance of WIL. This is not just to guarantee that the learning experience meets their business needs, but to guarantee the course or project is up to date with developments in the specific industry (Atkinson, 2016). People from the workplace, for example, can offer additional insight into the subtleties of presage in the workplace environment and the product aspects that influence the different business models, such as the changes anticipated as a result of learning experiences. With assistance from those in the workforce, academics with knowledge of pedagogies and epistemology are better equipped to package the

theoretical material for use in the workplace. Workplace supervisors have expertise and experience with the work environment; hence they are well put to notice and provide feedback on a student‘s performance. Different ideas for expanding employer engagement incorporate employers debriefing students toward the finish of the placement; administering evaluation questionnaires; and going to class assessment sessions to hear students' experiences (Atkinson, 2016). Other types of third parties, for example, industry bodies and associations, and government departments, should be considered during curriculum alignment because they are turning out to be progressively engaged with supporting and facilitating WIL. This can incorporate promotion among employer members; matching employers with students; supporting and planning exercises, programmes or scholarships; and running programmes for students and employers (Atkinson, 2016).

Academics must possess a wide range of knowledge and abilities in order to carry out their work in a way that ensures that placements are: educationally effective, ethical and legal; safe for students, the host organization, and their clients; and enhances partnerships and collaboration between the community, university, and industry (Cooper et al., 2010). For academics who are new to the position, certain universities have developed official professional development programmes. The academic staff's readiness to adopt WIL is another aspect that affects how prepared universities are for it. The dedication of academic staff to supporting students and offering direction throughout the learning process is essential to WIL's success. Universities also need to have procedures in place to honour and reward academic staff members who promote WIL. Universities must have WIL promoting and recognized policies to facilitate the implementation of WIL. The requirement for a precise definition of WIL and its

objectives is one of the policy consequences. To ensure that everyone understands what WIL is, this definition should be widely distributed to academic staff, students, and industry partners.

The learning challenges should accurately mimic real work situations that overtly contribute to industry objectives. This is preferred by both learners and their employers. Students taking part in WIL must not only show that they grasp new material but also apply it in ways that directly benefit the organization. This demonstrates the dual focus on WIL's growth of the learner and the organization. The evaluation of student learning and skill development in WIL is a difficult task. In WIL, the challenges of rigorous and effective assessment methods are more pronounced and it is widely acknowledged that the techniques used in traditional classroom-based teaching (i.e., measurement-based approaches) may not always be the most effective (Ferns et al., 2014). Instead, a wider array of evaluations is required to capture the all-encompassing nature of learning (Winchester-Seeto & Rowe, 2017). In order to ensure that graduates are meeting the needs of industry, curriculum reviews and restructures must be sensitive to the interests of the student intake into a degree.

In a case study by Choy and Delahaye (2011) a cohort of students, their managers, other academics, and the university officials all negotiated a curriculum. The creation of an organization-centered curriculum framework marked the start of the project. This was inevitably a collaborative effort that drew on the skills, knowledge, and experiences of a team from both institutions, each of which had pre-existing power relationships. According to Choy and Delahaye (2011) they started and expanded the partnership for WIL with some unexpected shifts in power dynamics. A number of

presumptions made by the learning cohort, their managers, and the academics at the start of the collaboration were discussed as they cooperatively worked to make the WIL experience useful to everyone. They learned that the foundation of an effective WIL is a learning partnership where control over the curriculum and pedagogy is shared. It inevitably includes learning on the parts of both partners (university and organization), and this learning is best facilitated when the two parties redistribute power. Additionally, they discovered that a partnership for WIL is far more complicated than it first appears and necessitates ongoing power negotiations in order to produce results for both the learners and their workplaces.

There are several methods to put the implementation of WIL into practice, but one way to group related activities is in four ways (taxonomy adopted from Kjellén & Svensson, 2014). Using practice as inspiration (–ease") comes first and foremost. This category includes instructional designs like "teaching cases," "practice-oriented simulations," and "role-plays," i.e., tasks that are somewhat connected to practice and may be more or less edited renditions of real-world scenarios. The second category is bringing practice to class (–imprint"). The use of practice imprints as resources in educational practice is included in this category. Examples include bringing in "guest lecturers" and artefacts from various professions, such as "commercial programming code" and "annual reports" from current businesses. Thirdly, the implementation of WIL should involve utilizing professional tools (–tool"). The goal of the activities in this area is to teach students how to use the de- facto industry standard tools, such as "reference manuals or databases" (online or printed), "state of the art software packages," or "professional routines and procedures," in the educational design. Lastly, the implementation of WIL should bring class to practice (–field"). The

activities in this category include empirically oriented fieldwork, such as "projects" or "thesis work," when students leave campus to experience and analyze genuine professional situations as part of their education.

The process of planning, executing, reviewing, and revising study programmes in collaboration with academics, workplace representatives, and students should constantly include methods of addressing diverse interests and needs. As with any curriculum, it is critical to make sure that the course objectives, WIL activities, and assessment procedures are all in line with one another in WIL curriculum. Clarifying the programme‘s or subject's effective, pertinent, and meaningful results will be important as a first step. When student learning involves work placement, it is crucial that academics, professionals from the workplace, and senior students-particularly those with work experience-be included on the curriculum development team. It will be simpler to manage the logistics required after the stakeholders have agreed on the learning outcomes, the primary learning activities, and the places of learning (Winberg et al., 2011).

The market's requirements should be considered by curriculum designers. Every sector needs to be systematically assessed for any national skill gaps or shortages (Chowdhury, 2020). Multiple capabilities and skills can be measured in multifaceted professional contexts through the integration of learning tasks and assessments (Wood et al., 2020). They suggest a combination of course work (on campus learning) and placement experiences (workplace learning) that has three stages: an early stage, an intermediate stage and a late stage. As they move through the stages, students engage in increasingly complicated activities and pedagogies.

Any effort to construct a curriculum that incorporates WIL calls for the proper materials. The growing accessibility and integration of higher education institutions around the world has made it necessary for them to pay attention to teaching and learning practices that address market demands for graduates who have had exposure to real employment environments (Dorasamy & Rampersad, 2018). A WIL curriculum can be developed using a variety of curriculum modalities, including work-directed theoretical learning, problem-based/oriented learning, project-based learning, and workplace learning (Winberg et al., 2011).

Universities need to be ready to handle the program's expectations in order to adopt WIL successfully. This entails having the tools, personnel, and resources required to support WIL programmes. Universities must be able to offer the necessary training to employees, employers, and faculty members who participate in WIL programmes. In order to ensure successful WIL implementation, universities must consider elements including institutional culture, governance, and regulations (Universities Australia, 2019).

The following topics must be covered in WIL curriculum: the nature and current state of knowledge in the discipline; the nature and current state of professional practise; educational philosophies, theories of teaching and learning, and educational research findings specific to the WIL modality; the role and types of assessment and feedback; the characteristics and learning needs, interests, and abilities of students; and the practical, ideological, and policy context of the academy (Winberg et al., 2011).

The academic/course coordinator, school/faculty, a central WIL unit, academic assistance, careers services, and the external engagement office are just a few of the university departments that might be involved in promoting WIL practice (McLennan & Keating, 2008).

WIL should be developed as a part of the entire course of study, not as a stand-alone component, according to Martin and Leberman's (2005) argument. This is due to the fact that before beginning their cooperative experience, students must have a particular level of behavioral competencies, and it cannot be assumed that the development of these competencies may be solely left to the WIL component of a degree (Fleming & Martin, 2007). As a result, several universities have started to define the generic skills and attributes that their graduates ought to have (Bell et al., 2021). However, in addition to being stressed throughout the WIL experience, administrators may need to take further steps to guarantee that non-technical competencies are maintained and reinforced throughout the student's undergraduate education (Martin & Hughes, 2009).

2.4.2 Challenges of Incorporating WIL University Curriculum

WIL as pedagogy gives universities another important problem. It is a substantial challenge to integrate WIL into the curriculum in a way that results in high-quality learning outcomes that target graduate qualities and employability skills (McLennan & Keating, 2008). According to McLennan and Keating (2008) the main difficulties include finding placements as WIL spreads more widely. Another challenge is becoming a partner in business and industry's human resource development and fitting in with their needs. The problem of having academic and general staff with the necessary training and expertise is another challenge. The difficulties universities

have in mainstreaming WIL include integrating career development learning into WIL, embedding WIL in pedagogy and courses, and resource-intensiveness. WIL surely is resource intensive. The actual costs may vary depending on the specific type of WIL program and the setting, but there are significant transaction costs associated with keeping up relationships with numerous employers, locating WIL opportunities, developing and evaluating WIL curriculum, and supporting a group of students who are spread out geographically (McLennan & Keating, 2008). Another difficulty that many universities are starting to take on is reshaping certain aspects of their universities in order to better enable and administer WIL. Therefore, WIL requires academics who have not previously facilitated WIL to adjust to a different teaching and learning context, one in which there is more emphasis on students managing their own learning processes rather than the teacher regulating the learning process.

Afonja et al. (2005) found in their cross-country research of engineering education in Zimbabwe, Nigeria and Ghana that placing students for industrial work experience is troublesome, the Zimbabwe's situation is less dire than that of Nigeria and Ghana since employers are hesitant to hire students. It is challenging to envision how any successful programme might operate without the cooperation of employers given the significance of employers in WIL.

It might be argued that the amount of financing provided by the government while developing WIL programmes affects the motivation for doing so. Academics may be inspired by the professional accolades they obtain for securing funding for research and teaching (Abeysekera, 2006). Unlike learning events that take place on a campus, WIL includes inherent risks. Universities, WIL personnel, respondents, and host

organizations may suffer significant financial, reputational, and legal repercussions as a result of WIL risks (Fleming, 2021). WIL presents a number of difficulties for traditional institutions, technological universities, and comprehensive universities. Issues of citizenship, ―graduateness", and employability must be considered in typical university programmes that do not account for graduates' professional pathways (without succumbing to "vocational drift").

Consequently, higher education institutions in Ghana should assess their educational curriculum and activities to determine their readiness for WIL which is a prerequisite towards their role in developing human capital in the country. It is more common to use Ferns et al. (2014) definition of WIL, which is used to "identify the myriad experiences that engage students in the workplace" and is "internationally recognized and nationally endorsed as a strategy for ensuring students are exposed to authentic learning experiences [of work] with the opportunity to apply theoretical concepts to practice-based tasks, ultimately enhancing graduate employability." A number of variables that affect how prepared universities are for WIL. The accessibility of resources like financing, personnel, and infrastructure is one of the variables. To support the implementation of WIL programmes, universities must have sufficient funding. For instance, students require spaces like laboratories, workshops, and tools that can facilitate hands-on learning.

2.5 State Support for WIL with Policy Initiatives

Accountability exists when the performance of tasks or functions by an individual or institutions are subject to the oversight of another individual or institution (Akyeampong, 2017). Citizens all over the world who elect governments and pay taxes to ensure economic growth expect governments to live up to their expectations.

Industries also pay huge sums of money as taxes that governments use to fund education. Some industries also provide funds to higher education institutions to support their activities therefore these industries expect that the graduates from these institutions can be employed in their industries. The industries expect that these graduates will be equipped with innovative and creative skills.

WIL is swiftly rising to the top of the list of strategic priorities for governments, industry, and universities (Billet, 2014). In order to integrate theory with workplace practices through authentic, real-world experiences, WIL incorporates a variety of approaches with various and distinct emphases (Billet, 2014a). To improve WIL results, universities should form relationships with the government and industry (Moore et al., 2015). In order to allow for greater flexibility, professional accreditation bodies, industry, and university academics must all harmonize their expectations and practices.

At least three important stakeholders are often involved in a WIL process: students, lecturers and the institutions where they receive their training, as well as employers and workplace supervisors (Patrick et al., 2008; Shirley, 2008). The relationships between the three parties—student, university, and employer—are intertwined as a result of government and higher education policies. The roles of these three WIL stakeholders also depend on how employers and training institutions view the value of work experience, which will impact whether or not WIL's objectives can be achieved. Only if a stakeholder approach is used, where relationships between academia and industry are encouraged, and where students are seen as learners, can the long-term results of WIL be sustained (Patrick et al., 2008).

NCTE (2010) which intended to rate tertiary institutions based on the relevance of their programmes to national growth and income production, similarly, declared an interest in improving the relevance of postsecondary education in the country. NCTE further aimed to build a broad policy framework on applied research in priority areas for national development in tertiary education institutions in its strategic plan for 2010–2014.

King et al. (2006) stated that there has not been much empirical study in Ghana looking at how well graduates' abilities are being applied in the workforce (as cited in World Bank, 2008). The goals of the training programmes for graduates are thus not met by policy decisions that are grounded in evidence-based arguments. For instance, Quayson (2007) contends that the educational sector functions under the presumption that the educational system has a structure and curriculum that represent the socio-economic, environmental, and manpower demands of the nation, even when such needs have not been empirically determined.

Governments always look for novel strategies to ensure increased economic growth and technical advancement in order to meet the constantly changing needs of their economies. Given this reality, industrialized nations have given the university-industry link tremendous attention in order to boost productivity, sustain advancement, and maintain their competitiveness in the global economy (Bawakyillenuo et al., 2013).

The establishment of the Ghana Industrial Skills Development Centre and the adoption of the National Science, Technology, and Innovation Policy are just two examples of state efforts to support tertiary graduates' acquisition of skills and knowledge in cutting-edge technologies (Ministry of Environment, Science, and

Technology, 2010). The Ghana Industrial Skills Development Centre was created with the goal of utilizing the financial and material resources necessary to achieve excellence in skills training in close cooperation with the Association of Ghana Industries (AGI) and the Ghana Employers Association (GEA) (Roeske, 2003). However, due to a lack of sufficient training resources, this intervention has not been able to achieve its objectives. Due to inadequate infrastructure, logistics, and weak connections with local industries for hands-on experience for both instructors and trainees, other technical training institutions below the tertiary levels, such as the Integrated Community Centre for Employable Skills (ICCES) and the Intermediate Technology Transfer Units (ITTU) in the country, have also been ineffective in instilling practical technical skills in graduates (Dasmani, 2011).

The National Science, Technology, and Innovation Policy's main goal is to make sure that science and technology effectively advance all areas of the economy, including tertiary education graduates' talents (Ministry of Environment, Science & Technology, 2010). Based on the complaints from employers about graduates' skills, there is currently insufficient proof of how much this strategy is improving the landscape of skill acquisition among tertiary graduates in the country. It may be argued that the provisions of this policy have not been put into effect completely. Bawakyillenuo et al. (2013) discovered that insufficient tertiary education provisions in comparison to provisions in Ghana‘s industrial policy is one reason for skills mismatch in Ghana‘s labour economy. They therefore recommended that the government should develop a long-term national development plan and comprehensive tertiary education policy within the long-term development goals of the nation.

A favourable policy climate is necessary for implementing WIL programmes. Policies can be used to support the creation and execution of WIL programmes, provide criteria for quality control, and allocate financing for both activities. The Australian government has funded and supported universities in developing and implementing WIL programmes because it recognizes the significance of WIL. For instance, the National Strategy for WIL in University Education 2021–2025 of the Australian government intends to promote a legislative environment that encourages the creation and implementation of high-quality WIL programmes all throughout the country (Wellings et al., 2019).

Commonly, a proportion of government funding for universities is contingent on graduate employment performance outcomes (Wellings et al., 2019). In Australia, for example, the federal government used to provide institutions extra money based on the percentage of students who passed the graduate skills test. The graduation skills test demonstrates a student's readiness for the workplace. The government implemented this suggested change as a result of companies' fears that graduates are "not ready" for the workforce. The development of employable skills improves the measure of employment outcomes, which is a gauge of a university's accountability (Knight & Yorke, 2003, as cited in, Fulgence, 2015). Universities are investigating techniques for maximizing job outcomes for their graduates in an era of national benchmarking and intrinsic competition among higher education providers. WIL integration into the curriculum is a crucial tactic for accomplishing this. The addition of "real world" learning activities improves graduate satisfaction, a metric used in national benchmarking (Little & Harvey, 2006; Patrick et al., 2008).

The rapid evolution of the marketplace, novel products, electronic commerce, consumer demands, and advances in science and technology all create problems for governments worldwide. Governments have a duty to create an environment that encourages business competition and success as well as to support commercialized research and the development of entrepreneurial skills (Lovdal & Robert, 1999; Narula & Dunning, 1998; Teegen, 2000). In this regard, universities can help the economy by increasing the capabilities of their graduates, since capabilities are one of the cornerstones of competitiveness in the knowledge-based economy. Since the establishment of public universities are done by the state, there is the need for the state to know the return on the expenditure from public funds.

The requirement for collaboration between universities and employers is another significant policy implication. The ability of universities to collaborate closely with employers to make sure that the programme meets the demands of the workforce is essential to the success of WIL programmes. In order to make sure that students are properly trained and prepared for the workforce, universities must also collaborate with employers. Policies that support collaborations between academia and industry can make this collaboration easier.

Governments are essential in creating the policy frameworks that direct universities in providing high-quality education. These frameworks frequently include the definition of learning objectives, curriculum standards, instructional strategies, and assessment procedures. Governments can establish clear standards for universities and hold them responsible for upholding them through laws, rules, and educational programmes.

By committing sizable expenditures to higher education, governments can show their dedication to providing high-quality education. For instance, Finland and Norway

have made large investments in higher education, resulting in universities that are well-known around the world and cutting-edge research outputs. Governments can give universities the tools they need to improve instruction and create a positive learning environment by ensuring they have access to the funding they require. The government may increase funding for workplace-based research and give publications based on this research more credit in order for a WIL programme to be successful. Since a standard for academic career advancement is research output, this could encourage academics to participate in a programme.

Governments use accreditation and quality assurance processes as crucial tools to make sure universities adhere to strict criteria for high-quality instruction. Universities are rigorously assessed as part of the accreditation process using parameters like faculty qualifications, curriculum relevancy, infrastructure, and student support services. Universities are evaluated for compliance with these requirements by accrediting agencies, which are frequently chosen or acknowledged by the government, to determine their calibre and reliability. According to Donkor et al. (2009) the then University of Education, Winneba's Department of Design and Technology Education first offered industrial attachment as a credit-bearing but unsupervised course in 1997. Only employees of the host companies were responsible for monitoring and evaluating the industrial connection at the time; departmental lecturers did not pay the students any visits during this time. After a decision was reached to allow instructors to visit students on industrial attachment, the supervised industrial attachment programme began in 2000. The National Accreditation Board for Tertiary Education of Ghana issued recommendations that led to that decision in 1999 (Donkor et al., 2009). The visits served as a way to make sure that students were

involved in a range of tasks related to their chosen fields of employment. Thus, the visits might have reduced the likelihood that students are exploited or used as slaves. Additionally, the visits gave lecturers the chance to check on students' progress and meet with both students and employees at the workplace, particularly supervisors, to talk about any issues that may have been troubling any of the stakeholders (Donkor et al., 2009). This empirical study clearly shows how the state or government has the authority to and can use policy to ensure all universities incorporate WIL into their curriculum.

The "public" (taxpayers, lawmakers, and governors) wants to know that the education their university students are receiving is of high quality. The same forces that have contributed to higher tuition rates—shrinking state budgets and rising costs for higher education—are also driving interest in accountability (Jones & Fang, 2016). The general public is interested in learning if the educational institutions in their country are assisting students in acquiring the knowledge, skills, and abilities they will need once they graduate (Immerwahl, 2000). Additionally, policymakers are increasingly interested in learning how much students have truly learned, not just how much they think they have acquired. Higher education institutions must show that their students have learned critical skills and information in addition to graduating, passing the needed exams for professional schools, and finding jobs in order to meet this demand for accountability. Policymakers generally support spending public funds on higher education institutions because the benefits of higher education are not realized only by the individual, such as in increased job prospects and higher earnings, but society benefits as well. Individuals with higher levels of education lead healthier and more active lifestyles, are more civically engaged, vote more regularly, and they are also

more likely to be employed, pay more in taxes, and rely less on government assistance programs (Ma et al., 2016). Therefore, governments are held accountable by their citizens when graduates do not get jobs or are not able to sustain jobs because of the gap between university and industry. Governments can show accountability to their people through development of WIL policies to ensure universities produce work-ready students is of utmost importance.

Another option for government is to use the triple helix development model, which emphasizes forging close linkages between industry, government, and universities, as one of the models used to describe knowledge transfer interactions. The concept is suggested as a method for helping developing nations move more quickly to a knowledge-based economy (Etzkowitz & Dzisah, 2008). In this context, Hatakenaka, (2004) noted that the overlap of interests has prompted collaboration between academia and industry, as well as government backing of such collaborations (as cited in Yildiz, 2014).

2.6 Theoretical Framework

A theoretical framework is a logically developed and connected set of concepts and premises—developed from one or more theories—that a researcher creates to scaffold a study. To create a theoretical framework, the researcher must define any concepts and theories that will provide the grounding of the research, unite them through logical connections, and relate these concepts to the study that is being carried out. In short, a theoretical framework reflects the work the researcher engages in to use a theory in a given study. Three theories; Experiential Learning Theory (ELT), Human Capital Theory and Consensus Theory were reviewed for the study; however, the main theory that underpinned the study was the Experiential Learning Theory (ELT).

2.6.1 Experiential Learning Theory (ELT)

Experiential learning theory emphasizes how experiences, including cognition, environmental circumstances, and emotions, influence the learning process and adopts a more holistic approach than traditional classroom instruction (Iipinge et al., 2020). Based on a four-stage learning cycle, the theory identifies four different learning styles (Iipinge et al., 2020). The first stage reveals that through participation in an activity, such as a simulation, the student gains actual experience; in the second stage the student reflects on the experience; thirdly, the student develops concepts and ideas from the experience by recognizing the significance of what was learned (this includes additional reflection and analysis of the strategies used to improve the outcome); and finally, the fourth stage ensures the student uses the concepts and ideas developed to test the hypotheses in subsequent situations. As a result, the learning process is represented as a learning cycle in which the learner goes through each stage.

The constructivist theorists, whose approach to learning more thoroughly involves the student in the creation and re-construction of their knowledge, were inspired by Dewey's (1938) work. A number of educational theorists, including Kolb (1984), Mezirow (1998) and Schön (1987) have also been influenced by Dewey's (1938) work (as cited in Ellis & Boyd, 2014; as cited in Grace & Grant, 2017; as cited in Kahlke & White, 2013). These individuals move beyond a purely behavioural definition of learning to propose that meaning, which may be challenging to observe and measure, plays a crucial role in that learning (Kolb, 1984, as cited in Ellis & Boyd, 2014).

The field of WIL is informed by several disciplines. Theories of experiential learning shed some light on the kinds of experiences that students might learn from as well as the significance of critical reflection in ensuring the experience is valuable. This method combines experience, perception, cognition, and behavior according to Kolb (1984) who calls it a holistic integrative perspective on learning (as cited in Ellis & Boyd, 2014). It is widely believed that the act of critical reflection on this experience, as in Kolb's model, is what makes learning through experience effective. WIL is a paradigm of experiential learning theory that brings together students, universities, and industry for the co-creation of mutual value (Peters et al., 2014; Sattler & Peters, 2012). WIL‘s guiding principles are founded on the theories of active and experimental learning, in which students move beyond visualizing and listening to attempting to "do" what they are being taught (Kolb, 1984 as cited in Ellis & Boyd, 2014). Governments from across the world are concerned that universities contribute as much as they can to students' "graduateness" in different ways (Winberg et al., 2011).

Dolotallas and Nagtalon's (2015) research focused on the impact of the experiential learning approach on students' performance in Filipino. The foundation of WIL is experiential learning, a four-stage cycle of learning where immediate or actual experiences serve as a springboard for observations and reflections. The study sought to: 1. compare the experimental and control groups' performance on the pretest; 2. determine the achievement gap that existed between the experimental and control groups in the first and second grade periods when the former were taught using experiential learning and the other group were taught using traditional methods; 3. compare the experimental and control groups' performance on the posttest; and 4.

determine the role that experiential learning played in the study. Dolotallas and Nagtalon (2015) used an experiment to collect their data. The experimental group was taught utilizing experiential learning, but the control group was taught using traditional methods, and the results showed a large achievement gap between the experimental and control groups in first and second grade. The experimental and control groups' posttest performance varied in a way that was very significant. In the post-test, students‘ performances substantially varied from one another. It was determined that the experiential learning approach can raise students' performance and be applied to other academic disciplines.

2.6.2 The Human Capital Theory

The link between education and the employment market is generally explained by the human capital theory (Becker, 1964, as cited in Baffour, 2015). Like any other investment, an investment in education and training is assessed in light of its rate of return. According to the idea, there are several causal connections between (1) spending money on education and training, (2) developing skills, (3) increasing productivity, and (4) improving employability, raising wages, and promoting economic growth (Souto-Otero 2007, 2010). Human capital, according to Becker (1964) refers to knowledge, information, ideas, skills, and health of individuals (as cited in Baffour, 2015). However, compared to alternative methods of skill development, his analysis placed a greater emphasis on formal educational investment. The human capital theory makes the case that industry is the primary employer of graduates from higher education. Therefore, in order for higher education to remain relevant, it must modify its courses, instructional methods, and approaches to match the changing needs of employers. Shultz (1961) states that the role that

higher education should play in developing human capital is of the greatest significance and in no shape can such importance be exaggerated (as cited in Baffour, 2015). Developing partnerships between academia and industry is one method of investing in human capital to "improve the quality of academic work, improve the standing of higher education institutions, and to enhance the on-campus university experience" (Ashton & Wagman, 2015, p. 713, as cited in Goode, 2017).

The partnership between academia and industry ought to consider the interests of the two players since when the partnership is commonly advantageous it could ~~–im~~prove profitability, increase productivity, and upgrade educational experience and human capital" (Ashton & Wagman, 2015, p. 714, as cited in Goode, 2017). A developing or partnership between academia and industry gives practically prompt outcomes, in that, it could improve performance significantly in the short term by enhancing the quality of human capital (Goode, 2017). Goode (2017) further states that a developing academia-industry partnership could empower industry to mentor Ghanaian students in wealth and job creation to work on the quality of living in the academic labor market.

2.6.3 The Consensus Theory

The tenet of the consensus theory is that societal change is fueled by technological innovation. Because they are no longer constrained by domestic wage agreements, employees with knowledge, skills, and ideas that add value have witnessed an increase in their compensation, according to the consensus theory, which is congruent with the human capital theory. Consensus theory frequently holds that inadequate skills are instilled due to inadequate curriculum design and implementation through proper pedagogical methods in the academic or university environment (Selvadurai et

al., 2012). A criticism of this theory however is that it is somewhat attuned to a normative utilitarian explanation which is rather simplistic. Consensus theory, which has roots in the nineteenth century, has been credited with supporting the relationship between the labour market, employment, and universities in the context of graduate employability (Brown et al., 2003, as cited in El Mansour & Dean, 2016). In order to improve employability, universities must include methods aimed at fostering standard competences into their curriculum (Fallows & Steven, 2000, as cited in Kir et al., 2021). Since knowledge of academic subjects alone is judged insufficient in the current economic environment, institutions should have the authority to incorporate general skills into curriculum. In order to incorporate common competences and unique capabilities, higher education institutions must reexamine their curriculum (Selvadurai et al., 2012).

The Experiential Learning Theory (ELT), The Human Capital Theory and The Consensus Theory converge to provide a strong theoretical foundation for this study by explaining the educational value of work-integrated learning. The three theories also justify state responsibility and investment, and they also highlight the need for institutional readiness and systemic coordination. Together these theories provide a comprehensive justification for examining state accountability and educational institutional readiness as critical determinants of effective work-integrated learning in universities.

Although Experiential Learning Theory, Human Capital Theory, and Consensus Theory diverge in their assumptions, each independently underscores the necessity of accountable state action and institutionally prepared universities for the effective implementation of work-integrated learning. Their divergence enriches the study by

illuminating pedagogical, economic, and social dimensions of WIL rather than collapsing them into a single explanatory lens.

2.7 Summary of Literature Review

A review of literature has revealed that even though there is currently a collaboration between university and industry, there still is a gap between employer expectations and the skills students possess upon graduation. There are quite a number of scholars who opine that re-adjusting universities‘ curriculum to suit the requirements of industry is a way to bridge such a gap. WIL has been proposed as an approach with which universities can train their students to meet industry requirements upon successful completion.

There are different definitions and perspectives of WIL, however, most scholars view it as a term for the different methodologies and strategies that combine theory with practice within universities‘ curriculum. A critical review of empirical studies and theories (experiential learning theory, consensus theory and the human capital theory) has shown that universities have shown their willingness to close the gap that exists between them and industry. Some form of WIL is currently being implemented in a number of universities.

However, very few universities have successfully re-designed their curriculum to include WIL because of the positive effects it most likely has on students‘ future employment opportunities. The role the state/government plays cannot be overemphasized. To ensure governments are accountable to their taxpayers, it is the duty of government to issue policies on WIL for universities in order to ensure quality education. Through community involvement, academic staff orientation and support, collaboration with employers and the implementation of policies issued by

government, universities‘ programmes can be developed and/or reshaped to meet industry requirements.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The methodology of this study was presented in the following order: research philosophy, research approach, research design, site and subject characteristics, population of the study, sample size and sampling techniques, types and sources of data, methods of data collection, data collection instruments, data analysis, trustworthiness and ethical consideration.

3.1 Research Philosophy

A research philosophy is a belief on the methods that should be utilized to collect, analyze, and use data regarding a topic. According to Saunders et al. (2007) research philosophy is the process by which research assumptions, knowledge, and nature are developed (as cited in Maqableh et al., 2015). Although the assumption is seen as a tentative statement of reasoning, it is based on the knowledge and insights that the philosophizing individual has gained via intellectual endeavor (Žukauskas et al., 2018).

Three well-known philosophical research paradigms—positivism, interpretivism, and critical theory—are employed to direct research methods and analysis. Foundationalism and empiricism gave rise to positivism; positivists emphasize objectivity and the validation or refutation of hypotheses. Since interpretivism was founded on Kant's principles and values subjectivity, it stands in stark contrast to positivism. The Frankfurt School gave rise to critical theory, which examines the larger repressive aspects of politics or societal influences and frequently incorporates feminist research (Ryan, 2018).

According to interpretivism, knowledge and truth are located historically, culturally, and according to one's interpretation of their effects (Ryan, 2018). The critique of positivism in the social sciences served as the foundation for the development of interpretivist philosophy. The research philosophy adopted to guide the methods and analyses of this study is interpretivism philosophy. Interpretivism, also referred to as interpretivist, involves researchers in the interpretation of study components; as a result, interpretivism incorporates the interests of people into research. Interpretive researchers therefore "assume that access to reality (given or socially constructed) is only through social constructions such as language, consciousness, shared meanings, and instruments" (Myers, 2008, as cited in Kar & Biswal, 2019).

According to Bryman (2008) there are four main approaches to interpretivist research, namely, hermeneutics, verstehen, symbolism interactionism and phenomenology (as cited in Ryan, 2018). Hermeneutics is frequently linked to reading, comprehending, and deciphering written materials to uncover their underlying meaning. In order to comprehend a phenomenon or the reasons behind participants‘ behaviour, the study of comprehension and perception from the perspectives of research participants is known as verstehen. Symbolism interactionism operates under the tenet that people's actions are primarily determined by their own interpretations. Also, interpretations originate from social exchanges, and individuals may modify interpretations according to their perspectives or personal encounters with the circumstances (Ryan, 2018). The interpretation and description of people's experiences are the main concerns of phenomenology. It is heavily influenced by presumptions from philosophy (Wilson, 2015). This study employed the phenomenology approach.

The interpretivism philosophy was adopted for this study due to its ability to produce data that tends to be reliable and honest. Primary data obtained through interpretivists studies may have a high level of validity. The interpretivism philosophy was adopted also because it provided the researcher with the ability to delve into an interviewee‘s beliefs, attitudes, biases, viewpoints, feelings, and views on WIL (Wellington & Szczerbinski, 2007). The significant data that has been obtained will therefore give scholars better insights for future action (Pervin & Mokhtar, 2022). Due to the fact that interpretivist scholars believe they share common beliefs in the society they live in, one advantage of interpretivism philosophy is that they can use their diverse perspectives on phenomena to deeply understand objects, people, or events in their socio-cultural contexts, rather than just describing them (Pervin & Mokhtar, 2022). However, a major disadvantage for interpretivist philosophy is that primary data generated in interpretivist studies cannot be generalized since data is heavily impacted by personal viewpoint and values.

Two core philosophical assumptions of interpretivism are Ontological position (Nature of reality) and Epistemological position (Nature of knowledge). Interpretivism assumes relativism such that reality is viewed as multiple, subjective, and socially constructed. Also, there is no single objective social reality independent of human interpretation. The ontological stance of the researcher is that phenomena such as state accountability, institutional readiness or work-integrated learning exist as experienced, perceived, and interpreted realities rather than fixed entities. Interpretivism is grounded in subjectivism and as such it assumes knowledge is created through interaction between the researcher and participants. It also assumes that understanding emerges from interpreting participants‘ meanings and perspectives.

It is the epistemological stance of the research to seek depth of understanding and not generalizable laws.

3.2 Research Approach

There are two fundamental approaches for conducting research: the quantitative approach and the qualitative approach. In distinguishing between the two approaches Kothari (2004) opines that the quantitative approach entails the creation of quantitative data that may be rigorously and formally submitted to quantitative analysis (as cited in Mwangi & Gitonga, 2014). Whereas with a qualitative research approach, attitudes, views, and conduct are evaluated subjectively. In such a setting, research is a function of the researcher's perceptions and insights. Such a research methodology produces findings that are either non-quantitative or that have not undergone thorough quantitative analysis. Focus group interviews, projective techniques, and in-depth interviews are frequently employed.

Flexibility is the primary distinction between quantitative and qualitative approaches. Quantitative approaches are typically rigid. For instance, when using quantitative techniques like surveys and questionnaires, researchers ask the same questions to every participant in a consistent order. Respondents may select from "closed-ended" or predefined response categories (Mack et al., 2005). The contact between the researcher and the study participant might be more spontaneous and adaptable using qualitative approaches, which are often more fluid. For instance, when using qualitative approaches, the majority of the questions are "open-ended" and may not be phrased precisely the same for every participant. Additionally, the participant-researcher connection in qualitative methods is sometimes less formal than it is in quantitative research. Compared to how it is with quantitative approaches,

respondents have the chance to give more comprehensive and detailed responses (Mack et al., 2005).

This study uses a qualitative research approach that aims to comprehend and characterize a phenomenon's fundamental qualities. The researcher wants to understand the phenomena of WIL from the perspective of the study respondents; hence the research approach used for this study is a qualitative one. Due to the complexity of WIL contexts and the kinds of concerns WIL researchers needed to investigate, Coll and Kalnins (2009) strongly encouraged researchers to consider the usage of qualitative research approaches.

Bartkus (2007) offered a critical analysis of quantitative WIL research, noting that while the published studies added significantly to the body of knowledge, the research quality was limited, the studies were descriptive in nature and there was a dearth of critical discussion grounded in theory. Given the intricacy of WIL contexts and the kinds of problems WIL researchers needed to investigate, Coll and Kalnins (2009) fervently urged academics to take qualitative research methods into consideration. Qualitative research methodology started to be used more frequently in WIL research as researchers aimed to comprehend, enhance, and theorize (Zegwaard, 2018).

3.3 Research Design

The research design for this study is a case study. A case study provides the chance to thoroughly examine a particular topic, such as one organization, or a group of people, and often entails acquiring and analyzing material. Case studies can help develop theories (Neville, 2010). According to Lucas et al. (2018) "case study" should be used as an approach rather than a method. The advantages of case study methodology are emphasized by the authors as a flexible strategy appropriate for the dynamic nature of

WIL. The authors agree that case study research has some drawbacks, such as being too specific, being difficult to generalize, and contributing little to theory, but they also offer two examples of how these drawbacks might be overcome without sacrificing the benefits that this methodology offers. The first example is that researchers should aim for analytical or theoretical generalization, not statistical generalization. The second example is the findings of a case study are linked to theory, which can then be applied to similar contexts. According to Stake (1995) case study research may concentrate on a single instance and offer a thorough evaluation and interpretation to comprehend that specific case (intrinsic case study) (as cited in Ohi, 2014). An alternative approach is to utilize a case as an illustration to shed light on a certain topic or problem (instrumental case study).

The study sought to explore how university courses in University for Development Studies (UDS) can be developed to meet industry requirements and to find out how the state can support work-integrated learning with a policy initiative in order to ensure state accountability. In light of this, the case study research design offers a much more appropriate approach. The case study designs do allow for the use of cross-sectional data taken from key persons within the scope of the study.

Case study research entails a thorough and in-depth examination of a specific occasion, circumstance, organization, or social group. A case often involves a specific location and duration: ~~"a~~ phenomenon of some sort in a bounded context" (Miles et al., 2014, p. 28). The case of this study is University for Development Studies (UDS). Case study design relies on many data sources for evidence because the distinctions between a phenomenon and its context are not always obvious (Yin, 2017). Both the procedure and the results of case study research are advantageous (Schoch, 2020).

The case study format will assist you in concentrating your research on a single case within the constraints of time and space. A case study also offers the researcher the chance to gather various types of information about the case, including interviews, documents, observations, surveys, and others, and gives you the chance to get a close-up view of a company or person as well as their internal operations and social interactions. The case study approach was chosen for this study's research design because it offers a thorough grasp of a bounded unit and aids the reader in analyzing the case in order to draw conclusions from it (Schoch, 2020).

The type of case study employed for this study was a single case study. The single case study allows researchers to focus on an issue or concern and then selects one bounded case to illustrate the issue (Creswell & Poth, 2018). According to Yin (2017) if a researcher only wants to study a single thing (such as single person from a specific group) or a single group (for example a specific group of people within a bounded system), a single case study is the best choice. The researcher therefore employed the single case study to allow the researcher to study the concept of WIL in-depth.

However, case study research designs have significant flaws that make them inappropriate for certain types of studies. The inability to statistically generalize the findings outside the parameters of the study is a drawback of the case study research design (Yin, 1994, as cited in Ilaiyan, 2013). Analytical generalization, which uses previously developed theories as a template against which the case study's empirical data are measured, was applied in the study to address this problem. Rowley's (2002) advice that generalization in case study design should only be carried only if the study has been suitably informed by theory and can therefore be demonstrated to add to the

established theory guided the use of analytical generalization (as cited in Al & Kobziev, 2016).

3.4 Setting of the Study

The University for Development Studies (UDS) was selected as the primary setting for this study. According to the university's website, the University for Development Studies (UDS) is the first public university in Northern Ghana. The university was established by the Government of Ghana by PNDC Law 279 and gazette on May 15, 1992 with aims such as providing higher education to all persons suitably qualified and capable of benefiting from such education and to also blend the academic world with that of the community in order to provide constructive interaction between the two for the total development of northern Ghana in particular and the country as a whole. The University operates a multi-campus system which are: Tamale campus, Nyankpala Campus, Tamale City Campus, Tamale North Campus and Eastern Campus, Yendi. The University started its academic year in September 1993 when the Faculty of Agriculture (FoA) admitted its first group of forty (40) students. From 1994 till the present, additional faculties, schools, institutes, etc. were progressively added. The University currently consists of three (3) Institutes, six (6) Schools, six (6) Faculties, and four centres, including two Centres of Excellence.

The school of engineering (SoE) was chosen for this study. The school of engineering (SoE) was established in September 2015 to train students in various engineering disciplines. The school has been envisaged as _a centre of excellence for the development of independent-minded professionals with innovative skills in all disciplines of engineering by advancing knowledge in science, technology, and engineering aimed at national development'. The school has six (6) academic

departments and two centres. These programmes are patronized by many international students, mainly under West Africa Centre for Water, Irrigation and Sustainable Agriculture (WACWISA) sponsorship.

Academic departments and centres of the school are listed below:

1. Department of Agricultural Engineering (DAE)
2. Department of Civil Engineering (DCE)
3. Department of Mechanical and Industrial Engineering (DMIE)
4. Department of Geological Engineering (DGE)
5. Department of Water, Waste and Environmental Engineering (DAWWE)
6. Department of Electrical/Electronic Engineering (DEEE) and the centres are;

- West Africa Centre for Water, Irrigation and Sustainable Agriculture (WACWISA)
- Energy Technology Centre (ETC).

The department of agricultural engineering and the department of mechanical and industrial engineering, which are the oldest departments in the school of engineering were chosen and used for this study. The two heads of department of agricultural engineering and the department of mechanical and industrial engineering were included in this study because of their role of being responsible for the organization of the staff, resources and curriculum of their departments. They are also responsible for ensuring the proper management and educational focus of their departments‘ staff, physical equipment, and other resources. Academic staff (lecturers) who are responsible for directly transmitting the curriculum to students were included in the population of this study. Level 400 and past students of department of agricultural

engineering and department of mechanical and industrial relations who are primary stakeholders were also included in this study.

3.5 Population of the Study

The people who pique the researchers' interest in extrapolating the research's findings are referred to as the population of a study. The total number of units (individuals, organizations, events, objects, or items) that share a common characteristic from which a sample is chosen for measurement can alternatively be thought of as the population (Jilcha, 2020). Population represents the complete set of elements that the researcher aims to study and draw conclusions about (Garg, 2016).

The population for this study included heads of departments, academic staff, industrial relation officers, level 400 students and past students of department of agricultural engineering and department of mechanical and industrial engineering of University for Development Studies (UDS). The population also included Ghana National Petroleum Corporation (GNPC) and Ghana Tertiary Education Commission (GTEC).

3.6 Sample Size and Sampling Techniques

The sample size for this study was thirty-one (31) participants. The sample was chosen because the researcher wanted be able to conduct rich and detailed semi-structured interviews and focus group discussions. Also, the sample size in this study was guided by the principle of data saturation and the purpose of the study. One challenge qualitative researchers face is that it is difficult to define how many people will be interviewed prior to actual data collection (Bryman, 2012). Due to this challenge, sample size determination in qualitative research has been the subject of persistent debates (Vasileious et al., 2018). Therefore, it is recommended that the size of the sample in qualitative research should not be too small as it may result in

difficulty in achieving data saturation, and at the same time the size of the sample should not be too large as it may result in difficulty in undertaking a deep analysis (Bryman, 2012).

Sampling techniques such as purposive and convenience sampling techniques were employed to select the sample size. Sampling techniques are largely categorized into two major types, which are probability sampling and non-probability sampling techniques. Probability sampling techniques are mostly used in quantitative studies whereas non-probability sampling techniques are mostly used in qualitative studies. This study employed qualitative methods in its data collection, therefore, non-probability sampling techniques (also called judgement or non-random sampling techniques according to Alvi (2016) were employed in this study. There are at least seven non-probability sampling techniques, however, in most cases, a kind of purposive sampling is used in qualitative research (Bryman, 2012). Sampling is a crucial step in any inquiry because it is a necessary component of the majority of social science studies, if not all of them.

Non-probability sampling techniques were used in this study. Non-probability sampling is a sampling technique that will not provide a basis for any assessment of the likelihood that any particular universe-wide constituent will have a chance of being included in the research sample (Etikan & Bala, 2017). One such technique is the purposive sampling technique. In purposive sampling technique, the members of a sample are chosen based on the goal of the study. It is also known as intentional sampling and additionally known as judgmental sampling (Bhardwaj, 2019). Purposive sampling is a technique that researchers may employ for document analysis, according to Flick (2018). Purposive sampling is based on the researcher's

judgement of who will be able to contribute the most information to help the study achieve its goals forms the basis of the sample design (Etikan & Bala, 2017). In order to obtain the necessary knowledge and be willing to share it, the researcher must concentrate on persons who share the same opinions.

The purposive sampling technique was used to select the participants for the semi-structured interviews and documents for documentary evidence. Level 400 students of the two academic departments were purposively selected for the study because the researcher who had gone through all the four levels because they can provide most information about the programmes. However, convenience sampling technique was employed to select the twelve (12) participants, six from each academic department, for the focus group discussions. The respondents included 7 males and 5 females. Since students were on vacation, only those who live in the Tamale Municipality and Tolon district were contacted.

Convenience sampling technique was also used to select twelve (12) past students of the same academic departments, six (6) from each academic department, for the focus group discussions. The respondents included 8 males and 4 females. Convenience sampling technique is the process of choosing a sample's respondents based on their easy accessibility. Only those members who are simple for the researcher to contact are chosen in this (Bhardwaj, 2019). For the purposes of convenience, old students who are in the Northern Region were contacted for this study.

Purposive sampling technique was again used to select the two (2) heads of the two selected academic departments, one (1) industrial relations officer of the school of engineering, two (2) academic staff from each of the two selected academic departments, one (1) employer from Ghana National Petroleum Corporation (GNPC),

and one (1) officer from Ghana Tertiary Education Commission (GTEC). The purposive sampling was also used to select documents for documentary evidence. The specific document that was sampled is the students' attachment logbook. The students' attachment logbook was sampled because it provided records of practical training that students go through during the industrial attachment. The sample size was chosen to satisfy the criteria for objectivity and to reduce sampling errors and systematic bias, despite the fact that no statistical technique was used to determine the size of the sample. The necessity to be able to conduct interviews, focus group discussions and documentary evidence was also considered when choosing the sample.

The inclusion criteria specify the characteristics participants must have to be selected into the study. Only level 400 students and past students were included in the study to ensure that participants were those who had gone through the four-year programmes and could provide relevant information on work-integrated learning. Also, lecturers, heads of departments, an industrial relations coordinator, policymakers and industry supervisors were included in the study to ensure participants possess relevant knowledge and experience on state accountability, institutional readiness and work-integrated learning. The exclusion criteria on the other hand specify the characteristics that disqualify potential participants from the study. In this study participants who were not level 400 students were excluded from the study in order to avoid including participants who cannot meaningfully contribute to answering the research questions.

3.7 Types and Sources of Data

Primary and secondary data are the two categories of data. Primary data are those that are newly gathered and unique since they are obtained for the first time. Conversely, the secondary data are those that have previously been gathered and subjected to the

statistical procedure by another party. The researcher would have to choose a strategy of data collection based on the type of data that would be used in the study (Yayeh, 2021).

The study employed the use of both primary and secondary data. Primary data for the study were obtained through semi- structured interviews and focus group discussions with key informants. The secondary data on the other hand was obtained mainly from reviews of relevant documents of University for Development Studies, Tamale. Secondary data were also obtained from websites, related books and journal papers that outline the essential components of WIL. In terms of nature of the data, the data collected for the study was mainly qualitative data. The entire study was conducted using qualitative approaches and as a result, it was necessary that the data collected were also qualitative in nature.

3.8 Methods of Data Collection

Three main methods were employed in the collection of data for the study namely, interview (semi-structured), focus group discussion and documentary evidence. Interview is one of the most used data collection methods. It is a deliberate engagement in which one person seeks out information from another person or people. It is a skill that is used in a variety of contexts with various degrees of satisfaction for both the interviewer and the interviewee (Sahoo, 2021). In essence, each respondent in the sample receives a questionnaire orally and in person. During this process, the interviewer might watch a person's behaviour in terms of things like his speaking style, composure, propensity, etc. (Sahoo, 2021). Briggs (1986) calculated that interviews are used in 90% of social science research investigations (as cited in Cropley, 2023). Even if the percentage may be smaller in psychology and

education, Cropley (2023) acknowledges that Briggs (1986) estimate clearly shows how important interviews are as a research method.

Interviews may be open, semi-structured, or structured (Cropley, 2023). In this study, semi-structured interviews were used for the one-on-one interviews conducted by the researcher. A semi-structured interview is defined as one that follows a flexible framework consisting of open-ended questions that define the subject matter to be explained, usually through the use of a topic guide (Patton & Cochran, 2002, as cited in Krengel, 2016). In policy research, semi-structured interviews are frequently utilized. Semi-structured interviews are frequently employed by researchers who wish to fully comprehend the responses given and go deeply into a subject (Harrell & Bradley, 2009). Semi-structured interviews are conducted conversationally with one respondent at a time and use a combination of closed- and open-ended questions, frequently followed by follow-up questions about why or how (Adams, 2015). Adams (2015) encourages interviewers to be astute, sensitive, poised, and flexible as well as educated about pertinent substantive topics because semi-structured interviews take a lot of time, labour, and expertise from the interviewer.

Semi-structured interviews have the drawback of requiring extensive planning and preparation for creating the interview schedule, conducting the interview, and interpreting the interview results (Sahoo, 2021). But because semi-structured interviews are flexible and allow both the interviewer and the interviewee to have more in-depth discussions about the subject, the researcher orally conducted semi-structured interviews with the aid of a prepared interview guide using audio-taping and mobile phone to capture data to transcribe after the interview (Cohen & Crabtree, 2006 as cited in Hani & de Marcellis-Warin, 2016). Semi-structured interviews were

employed to interview the heads of departments, lecturers, industrial relations coordinator, employer and government official. Each interview lasted approximately 30 minutes.

Focus group discussions are types of in-depth interviews conducted in a group setting. The meetings of these groups have certain characteristics related to the proposal, size, composition, and interview process (Mishra, 2016). Focus group discussions are conducted by researchers that gather a group of people to talk about a certain subject with the goal of gaining insight into the participants' complex personal experiences, beliefs, perceptions, and attitudes through mediated interaction (Cornwall & Jewkes, 1995, as cited in Yayeh, 2021). Focus group discussions are a type of qualitative data collection, which means that the results are descriptive and cannot be quantified (U.S. Department of Health and Human Services, 2018). The number of participants in each of the four focus group discussions conducted in this study was six (6) each. This was because the researcher considered the purpose of the study and the kind of data she needed from each group and decided that six (6) participants will be able to provide all the data needed.The number of participants in the focus groups might vary; generally, there are ten to twelve participants (Baumgartner & Hensley, 2006), six to ten participants (Powell & Single, 1996, as cited in Liu et al., 2015), six to eight participants (Krueger & Casey, 2000, as cited in Lange, 2002), and six to twelve participants (Yayeh, 2021) who are interviewed together and have comparable traits or interests. However, according to Bryman (2012) the number of participants can be as low as four participants.

Focus group discussions usually last 45-90 minutes and the group is led by a facilitator using a prearranged list of themes. The facilitator fosters an atmosphere that invites people to express their opinions and viewpoints. Focus group discussions are a qualitative approach of gathering data, which means that the information is descriptive and not quantitatively quantifiable (U.S. Department of Health and Human Services, 2018). To conduct a focus group discussion, it is advised that there is someone to serve as a moderator/facilitator and another person as a note taker, however, in this study, the researcher doubled as a moderator and note taker. Focus group discussions can be held over the phone or in person. Even while it is best to hold focus group discussions in person, they can be held over the phone. Another tool that can be utilized for focus groups is web conferencing (U.S. Department of Health and Human Services, 2018). The image of dynamism, modernity, and competition that online focus groups offer surpasses traditional issues with in-person focus group discussions (Kamberelis & Dimitriadis, 2005, as cited in Yayeh, 2021). But only participants with internet connection can use the discussion platforms, which are prone to technical issues such weak or lost connectivity and failure to record nonverbal data (Dubrovsky et al., 1991, as cited in Yayeh, 2021).

Four (4) separate focus group discussions were conducted in this study. Two separate focus group discussions were conducted with level 400 students of Department of Agricultural Engineering and Department of Mechanical and Industrial Engineering and two other separate focus group discussions were held with graduates of the aforementioned departments. Each focus group discussion lasted for forty (40) minutes.

According to Bowen (2009), there are many different types of documents that can be utilized for systematic evaluation as part of a study. They consist of press releases, programme proposals, application forms, and summaries; agendas, attendance registers, minutes of meetings; manuals; background papers; books and brochures; diaries and journals; event programmes (i.e., printed outlines); letters and memoranda; maps and charts; newspapers (clippings/articles); summaries and programme proposals; radio and television programme scripts; institutional or organizational reports; survey data; and other public records. Photo albums and scrapbooks can also provide documentary material for research purposes. Libraries, newspaper archives, historical society offices, and institutional or organizational files all have these kinds of records. The researcher must verify documents for representatives, meaning, authenticity, and credibility before deciding the ones to examine for a study (Flick, 2018). Analyzing documents can be used to confirm results or validate data from other sources. As a kind of triangulation - which is defined as "the combination of methodologies in the study of the same phenomenon" - document analysis is frequently employed in conjunction with other qualitative research methods. The specific document that was consulted for documentary evidence was the students‘ attachment logbook. The students‘ attachment logbook was used because it provided records of practical training that students go through during the industrial attachment.

3.9 Data Collection Instruments

A data collection instrument is a tool that a researcher can use to gather and examine information about a particular research interest. According to Creswell (2009) the steps in gathering qualitative data involve defining the parameters of the study, gathering data through unstructured observations and interviews, documents, and

visual materials, as well as developing the technique for data capture. Three categories of data collection instruments were used viz. a semi-structured interview guide, focus group interview schedule and documentary evidence checklist. The items in each instrument were structured to reflect the research questions of the study. The semi-structured interview guides and focus group interview schedule sheets were used to guide the questioning of participants. All the three research instruments were self-constructed.

The simplest instrument for gathering data is an interview guide, especially one that is semi-structured, which has questions that are loosely organized to allow respondents to express themselves fully (Adosi, 2020). A list of questions and topics that must be discussed during the interview, typically in a specific order, is called a semi-structured interview guide. Although the interviewer adheres to the framework, he or she is free to take the conversation along thematic paths that deviate from it when it seems appropriate and may provide the opportunity for the interviewer to identify new ways of seeing and understanding the research topic. Semi-structured interview guide is a guide that offers interviewers a clear set of guidelines, and can yield trustworthy, comparable qualitative data. Semi-structured interviews are popular among academics because they allow for the preparation of interview questions in advance. This makes it possible for the interviewer to show up for the interview competent and ready. Participants are also able to voice their opinions in a semi-structured interview on their own terms (Cohen & Crabtree, 2006 as cited in Hani & de Marcellis-Warin, 2016). The semi structured guides employed for this study can be found as Appendix II to Appendix VI. The questions on each guide were nine or ten questions; each had four parts or sections with approximately 1 to 3 questions each.

A detailed list of questions that is referred to during the focus group discussion is called a focus group interview schedule. When designing the instrument, extensive secondary research and a review of earlier, comparable studies must be done. A focus group interview schedule gives hints and direction to the moderator/researcher on how to ask questions and lead the discussion in a way that is both understandable to the participants and allows the facilitator to extract pertinent data for the study. It contains questions that the facilitator should ask the participants as well as guidelines on when and how to probe the respondents, ask follow-up questions, conduct a participation activity, and other things. The researcher will be able to improve the instrument once the guide has been drafted by sharing it with sector/industry experts and asking for their feedback. Before deciding to use the instruments for the research project, it is equally important to pilot test them. With the help of the pilot test results, the researcher will be able to refine the structure and flow of the questions, find any gaps in the guide, reword some of the questions to make them easier for participants to grasp, and add questions that might have been overlooked (Organization for Economic Co-operation and Development [OECD], 2022). The focus group interview schedule employed for this study can be found as Appendix VIII and Appendix IX. The questions on each guide were eight or ten questions; each had four parts or sections with approximately 1 to 3 questions each.

A documentary evidence checklist was used to collect documentary evidence. According to Forman et al. (2008) a documentary evidence checklist is a comprehensive and methodical instrument that directs a researcher in the analysis of documentary material in order to address particular research issues (as cited in Adosi, 2020). A documentary evidence checklist lays out a methodical process for going over

or assessing written and digital sources in order to produce proof to solve a research question (Bowen, 2009). The specific document that was consulted for documentary evidence was the students‘ attachment logbook. The students‘ attachment logbook was used because it provided records of practical training that students go through during the industrial attachment.

3.10 Data Analysis

The method of data analysis for this study is grounded theory framework of data analysis. Grounded theory data analysis is a process that requires astute questioning, a relentless search for answers, active observation, and accurate recall. It is a process of piecing together data, of making the invisible obvious, of recognizing the significant from the insignificant, and of linking seemingly unrelated facts logically (Miller, 2015). In particular, the researcher looks for patterns that cut across various aspects of the data. When these patterns organize different segments of the data we call them themes. In true grounded theory research, themes are said to ―emerge from the data.”

Grounded theory framework of coding is based on four levels of coding. The first level is open/initial coding, the second level is axial coding, the third level is thematic coding and finally the fourth level is theoretical development. Open/initial coding compares incidents and generates large, tentative categories. Data is broken down, labeled, and fit into as many categories as are appropriate. The researcher then recorded in memo form any insights that occurred during the comparison of incidents.

The axial level of coding consists of constant comparative analysis in which the researcher attempted to establish properties within each category. This was accomplished through groupings of the initial open codes into descriptive or key elements.

During the thematic level of coding, similar categories were reduced to a smaller number of highly conceptual categories or themes, hypotheses were generated, and any new data were checked to fit into the overall framework. Finally, in the theoretical development level of coding, the actual writing of the theory took place. At this point, the researcher was convinced that her analytic framework forms a substantive theory that is a reasonably accurate statement of the area being studied and is in a form that others going into the field can use.

The seven (7) participants who were interviewed were represented in the data analysis as IR#1, IR#2, IR#3, IR#4, IR#5, IR#6 and IR#7 and the twenty-four (24) participants who were interviewed in the focus group discussions were represented as FG#1, FG#2, FG#3, FG#4, FG#5, FG#6, FG#7, FG#8, FG#9, FG#10, FG#11, FG#12, FG#13, FG#14, FG#15, FG#16, FG#17, FG#18, FG#19, FG#20, FG#21, FG#22, FG23 and FG#24.

3.11 Trustworthiness

Certain authors have proposed that qualitative research ought to be assessed using criteria that are significantly dissimilar from those employed by quantitative researchers. Guba and Lincoln (1994) contend that in order to give an alternative to validity and reliability, it is vital to define terms and procedures for determining and evaluating the quality of qualitative research (as cited in Bryman, 2012). They suggest trustworthiness and authenticity as the two main criteria for evaluating qualitative research. In this study, three data collection methods—focus groups, semi-structured interviews, and documentary evidence—were employed in this study to address a research question and create a consistent body of evidence from several data sources or approaches in order to establish the study's trustworthiness.

There are four criteria to trustworthiness, which include; credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985, as cited in Moser & Korstjens, 2018). Credibility determines if the study's conclusions are a valid interpretation of the participants' original opinions and contain information gleaned from their original data that is plausible (Lincoln & Guba, 1985, as cited in Moser & Korstjens, 2018). It is expected of the qualitative researcher to employ several (at least two) sources of evidence, i.e., to use many data sources and methods to look for convergence and corroboration. In addition to documents, these sources consist of participant or non-participant observation, interviews, and tangible artefacts (Yin 1994, as cited in Bowen, 2009). Through the cross-verification of evidence to substantiate assertions from more than two data gathering sources, triangulation ensures trustworthiness of data. Triangulation minimizes bias in the researcher's interpretation of the data while testing the consistency of findings from many data sources and instruments (Clark et al., 2020). The researcher ensured credibility through triangulation by collecting data through three sources; semi-structured interviews, focus group discussions and documentary evidence. Also, the researcher returned to participants with preliminary findings to gain their feedback and ensure the interpretations were accurate and reflect their experiences.

Transferability is the extent to which findings from qualitative research can be applied to different situations or settings with other participants (Lincoln & Guba, 1985, as cited in Moser & Korstjens, 2018). Through thick description the researcher helps a potential user make a transferability judgement (Geertz, 1973a, as cited in Bryman, 2012). According to Lincoln and Guba (1985) a thick description gives people access to what they call a "database" that they may use to assess whether or not research

findings can be applied to different contexts (as cited in Bryman, 2012). The researcher ensured transferability by describing the setting, participants and the research process in detail. Also, to ensure transferability, the researcher explained the sampling techniques used, data collection methods and data analysis procedures. Feedback was also sought from participants on the interpretations and findings.

Dependability refers to the stability of results over time (Lincoln & Guba, 1985, as cited in Moser & Korstjens, 2018). Participants' evaluation of the study's conclusions, interpretation, and recommendations—all of which are bolstered by the data collected from study participants—all contribute to dependability. To ensure the trustworthiness of dependability, the researcher adopted the ‗auditing' approach. This means the researcher made sure that thorough and easily accessible records are maintained at every stage of the research process, including problem formulation, participant selection, fieldwork notes, interview transcripts, data analysis decisions, and so on. Peers of the researcher took on the role of auditors during the research and also at the conclusion to determine the extent to which appropriate protocols are being followed.

The degree to which the research study's conclusions could be confirmed by further researchers is known as confirmability. Confirmability is the process of proving that the data and interpretations of the findings are indeed drawn from the data and are not the product of the inquirer's imagination (Lincoln & Guba, 1985, as cited in Moser & Korstjens, 2018). According to Lincoln and Guba (1985) one of the goals of auditors should be to establish confirmability. To ensure confirmability in this study, the researcher documented the methods used for data collection; semi-structured interviews, focus group discussions and documentary evidence and ensure that the

data collection process is consistent and reliable (as cited in Moser & Korstjens, 2018).

3.12 Ethical Considerations

Even when done unintentionally, research can sometimes have negative effects on respondents' safety, dignity, and well-being (Pillay, 2014). In light of this, it is advisable for the researcher to implement measures to completely prevent, or at the very least significantly lower, the chance of study volunteers experiencing harm. In order to prevent respondents from suffering any negative effects or disadvantages as a result of their participation in this study, a number of ethical principles and concerns such as informed consent and confidentiality were considered in this study.

"Informed consent" is a fundamental ethical research guideline that was taken into consideration in this study (Denzin & Lincoln, 2011). To ensure ―informed consent", respondents of this study were fully informed about what will be asked of them, the purpose of the data, and any potential implications as suggested by Zegwaard (2018). All respondents of this study belong to specific organizations, hence, an application letter requesting for access to collect data from members of their organizations were sent. The application letter for access detailed who the researcher is, the purpose of the study, the type of data the researcher wants to collect and from whom the data would be collected (See Appendix XI to XIV for samples of the application letters). The application letter was attached with an introductory from the researcher's school, University of Education, Winneba. The researcher begun to collect data only after approval had been given by the ―gatekeepers" of the organizations. Even though the access had been granted by the organizations, the researchers sought for ―verbal consent" from each of the respondents before they were interviewed individually or

before the focus group discussions. This satisfies Pillay‘s (2014) concerns that human subjects in a research study must be informed about the nature of the research project by obtaining their consent prior to their participation in the study. All information regarding the nature of the study was stated in an informed consent letter that was sent to the organizations prior to the study.

The names, contacts and addresses of respondents were known to the researcher, however, data was de-identified and participant identities (Zegwaard, 2018) were kept private in order to protect respondents‘ confidentiality. The researcher had knowledge of the respondents' identities, but she protected them; as a result, the respondents' identities were not disclosed in this study. However, in focus group discussions, maintaining confidentiality necessitates extra care and attention (Mack, et al., 2005). Because of this, the researcher kept participant names out of the focus group and rather set up a name substitution mechanism by assigning respondents with letters ahead of time. The researcher has also kept the notebook and the electronic recorder that she used to record the data secured and protected to ensure respondents‘ confidentiality.

3.13 Summary

This chapter presented the methodological framework guiding the study. The study was anchored in the interpretivist philosophical stance, which assumes that social realities are socially constructed and best understood through the meanings and experiences of participants. In line with this philosophy, a qualitative research approach was adopted to enable an in-depth exploration of state accountability and educational institutional readiness for work-integrated learning.

The study employed a single case study design, focusing on the University for Development Studies (UDS) as the research setting. This design allowed for a detailed and contextualized understanding of the phenomenon within its real-life institutional context. A total of 31 participants were selected for the study. Purposive sampling was used to identify participants with relevant knowledge and experience in WIL-related activities, while convenience sampling was applied to ensure accessibility and feasibility. The study utilized both primary and secondary data sources to enhance depth and triangulation. Primary data were collected through semi-structured interviews and focus group discussions, enabling participants to express their perspectives freely while remaining aligned with the study‘s objectives. Secondary data was obtained from documentary evidence. The data collection instruments comprised an interview guide, a focus group interview schedule, and a documentary evidence checklist.

Data was analyzed using the grounded theory framework, which involved systematic coding and constant comparison to generate themes grounded in the data. This approach facilitated the emergence of patterns and relationships relevant to state accountability and institutional readiness.

To ensure the trustworthiness of the study, strategies addressing credibility, dependability, confirmability, and transferability were employed. Ethical considerations were also strictly observed, including informed consent, confidentiality, anonymity, and respect for participants‘ rights throughout the research process.

In summary, Chapter Three outlined a rigorous and coherent methodological approach that aligned with the study‘s philosophical stance and research objectives, ensuring the generation of credible, ethical, and contextually grounded findings.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSIONS

4.0 Introduction

This chapter discusses the data gathered from the field. The data was collected from thirty-one (31) participants. Four (4) focus group discussions with six (6) participants each were conducted on final year students and past students of two (2) academic departments. Semi-structured interviews were conducted to collect data from two (2) heads of the two selected academic departments, one (1) industrial relations officer of the school of engineering, two (2) academic staff from each of the two selected academic departments, one (1) employer from Ghana National Petroleum Corporation (GNPC), and one (1) officer from Ghana Tertiary Education Commission (GTEC). Also, documentary evidence was collected.

4.1 The Need for Linking University Courses to Industry Requirements

Every country relies heavily on the acceleration of economic growth and technological advancement. Strong ties between university and industry are necessary for a nation to consistently advance its economic and technological growth. The rapid pace of technological advancements and the ever-changing landscape of industries have underscored the importance of aligning university courses with the dynamic needs of the workforce. The traditional model of education, with its focus on theoretical knowledge, is increasingly being challenged as employers seek graduates with practical skills and the ability to adapt to real-world challenges.

4.1.1 The Concept of WIL

Students acquire hands on skills through mandatory and assessed WIL. WIL is a core requirement for the programmes run by the university and students are placed in the requisite occupational environment to acquire hands-on skills through applying theory to practice. The methodologies used include observation and participation in industrial activities.

WIL is an educational programme that ensures that theories learnt in the classrooms are related to real work experiences through the application of theoretical concepts to practice-based tasks as part of the occupational requirements of a programme of study. WIL is achieved through students' observation and participation in industrial activities. In universities, WIL is a strategy to help students to practice the theories taught in classrooms.

―WIL refers to actions employed to offer students the opportunities to apply theoretical concepts to practice-based tasks so as to ensure students become more work ready" (FG#7).

The opinion of respondent FG#7 on the concept of WIL aligns with Ferns et al. (2014) who define WIL as the myriad of experiences that engage students in the workplace and a strategy for ensuring students are exposed to authentic learning experiences [of work] with the opportunity to apply theoretical concepts to practice-based tasks, ultimately enhancing graduate employability.

―WIL is fusing learning with industrial experience; this connotes incorporating universities' curriculum with industrial practice" (IR#3).

4.1.2 Forms of WIL

Students acquire hands on skills through mandatory and assessed WIL. Forms of WIL practiced are mandatory industrial attachment, industry study tours, industry projects, industry placements, field practical work, visitation to workshops, field trips, third trimester field practical which involves; community service and industrial attachment, and certain aspects of field work and practical knowledge.

The forms of WIL practiced were mandatory and assessed industrial attachment where students went to industries to learn the ethics of the workplace. The forms of WIL practiced were industrial attachments, industry study tours, industry projects, industry placements, field practical work, and certain aspects of field work and practical knowledge. The forms of WIL practiced were industrial attachments, visitation to workshops and field trips outside campus. The form of WIL practiced was the third trimester field practical programme in which students went into communities to find solutions to real life problems and go into industries to learn real work experiences.

> At the school of engineering we require our students to do mandatory industrial attachment in the third trimester of their third year to prepare them for the world of work and also, as an institutional approach, our students go into communities during the third trimester of their first and second years to first of all identify problems and document them and then the following year, based on the problems identified, develop proposals that can address the problems (IR#1).

The opinion of respondent IR#1 is supported by Lawson et al. (2011) who developed a typology of WIL that includes industrial attachment as a form of WIL.

In the school of engineering, we were obliged to engage in industrial attachment in any industry related to our programme of study during our level 300 third trimester and then we were assessed (FG#10).

The opinion of respondent FG#10 is supported by Rowe et al. (2012) who refer to industrial attachment as one of the most widely reported and accepted form of WIL.

> We practiced what was called the third trimester field practical which ran across from level 100 to 300. In level 100 a group of at least ten (10) students are assigned to a community in a region to first socialize with the members of the community and then use various methods such as a problem tree analysis to identify a problem the community faces. At level 200, the student will be expected to go back to the same community during the third trimester to do a follow-up of what he/she has done and subsequently collect data such as the number of the community's population and number of households again, and then analyze to find out whether the community still has the same problem or they have been able to find a solution to it. Then in the third trimester of level 300, we go out again but this time to industries for our industrial attachment (FG#11).

Students acquire hands on skills through mandatory and assessed WIL. The form of WIL practiced is assessed industrial attachment.

> WIL in school of engineering is in the form of industrial attachment that is considered as one examinable unit that the students are supposed to undertake. The whole exercise is marked out of 100 marks i.e. industry supervisor's assessment constitutes 20 marks, university/school of engineering supervisor's assessment constitutes 20 marks and industrial attachment report is 60 marks (Students' Attachment Logbook).

4.1.3 Benefits of WIL

WIL increases industrial productivity and makes students work-ready. One benefit of WIL is its ability to increase industrial productivity. The benefit of WIL is to increase productivity results for industry.

> WIL has benefits for industry because it is the first point of contact for majority of graduates and so if the graduate is already with the knowledge of what goes on in industry through WIL then industry will not use a lot of resources to train their new employees. This I believe will greatly increase productivity results for industry (IR#3).

The opinion of IR#3 is supported by Atkinson (2016) who opines that WIL enhances productivity results for industry and the economy as well as smoothing transition from university to the workplace.

4.2 Existing Connection between University and Industry

Exchange programme collaboration between university and industry align university courses to industrial requirements to enrich students' learning and work experiences. To align university courses to the requirements of industry, practically-oriented approaches such as field trips, and visitations to workshops and/or laboratories are used. Practically oriented approaches such as field trips, and visitations to workshops and laboratories are used to align university courses to the requirements of industry.

> Industry is practically oriented so as much as possible, we organize field trips for students to go to the field to have practical experience. As an engineering department, we require a lot of equipment and machinery to teach our students, but we do not currently have in our possession all the required equipment and machinery. Therefore, we prepare and send our students to institutions such as Kwame Nkrumah University of Science and Technology (KNUST) or Tamale Technical University (TaTU) that have the required equipment and machinery so that our students could get that exposure. Also, the courses we teach have practical components and so we have periods that we go to the workshop and then we give our students firsthand practical experience. At their final year, students do project works which are purely practical. We do not encourage students to do anything else other than practical. It is either students go to the field and take data or design and fabricate or even simulate because these are things that are done in industry, so we always ensure that students project works are related to industry needs (IR#1).

> Industry is about practice and so we try to align whatever we do in the classroom to industry. We collaborate with industry so we can both stay in sync. So, if somebody is in the industry and wants to come to further their education and does not meet our admission requirements, we have various means for that person to gain admission depending on the certificate the person is holding. One key thing is for the applicant to have at least two years of work experience before the applicant is admitted to pursue our engineering programmes. For those who come to us straight away from the second cycle, we admit them through a minimum entry requirement. After admission of all those with and without prior industry experience, we take them through the basic knowledge in engineering before they progress into advanced concepts. For example, before students are taken to the workshop or laboratory, we first teach students safety protocols in using tools and equipment in the classroom (IR#2).

Exchange programme collaboration between universities and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. Universities collaborate with industry to embark on exchange programmes to enrich the learning and work experiences of students. The GNPC receives students for their industrial attachments and national service. The GNPC collaborates with some universities through memorandum of understanding and sends its staff to universities to teach and review curriculum.

> Here at Ghana National Petroleum Corporation (GNPC), we get a lot of interns within the summer from all over the country. We have accepted students from universities such as University for Development Studies (UDS), University of Energy and Natural Resources (UENR), Kwame Nkrumah University of Science and Technology (KNUST) and Regional Maritime University (RMU). We also receive graduates from universities all over the country who join us as national service personnel. Personally, I interact with at least fifty to one hundred students who join us to do their industrial attachment every cycle. Our corporation has a collaboration with one of the universities I mentioned and as part of our collaboration, some of us (industry employees) go to that university as part-time lecturers to teach courses that require our expertise. Our collaboration is formalized with a memorandum of understanding in which we state what each party requires from the other. Also, some universities submit their curriculum to us and base on our staff strength, we pick some of the courses that will require industry experts to teach. When it comes to industrial attachment and national service programmes, students initiate the process by submitting application letters through our human resource department and then applicants are shortlisted and called to come and work with us. So, I have a sort of interface with fresh people who come from school whether through internship, national service or through the part-time courses that I go around to teach when my work schedule permits me (IR#3).

HCRC (2009) confirms the opinion of respondent IR#3 that an industry partner can provide guest lecturers to share their professional expertise with students and give credibility to the curriculum as a curriculum development function to universities.

Universities develop and train the students with practical knowledge and nationally relevant courses that adhere to the mandates of the departments that run the

programmes. Universities are required to develop and train students in courses that are relevant to the nation's development and progress based on the mandates of the various departments. GTEC requires universities to develop courses that are relevant to the nation and meet the department's programme mandates.

> As the regulatory body of tertiary institutions in Ghana, we require universities to apply to us for accreditation of their programmes before they can run them in their schools. For each of the programmes universities want to run, they are expected to develop a curriculum which is expected to be nationally relevant and must be in sync with the mandates of the faculty or department that is seeking to mount the programme. The curriculum is also expected to have all that it takes to equip students with precise skills in that profession or that relevant area (IR#4).

Exchange programme collaboration between University for Development Studies (UDS) and industry align university courses to industrial requirements to enrich students' learning and work experiences. To align university courses to the requirements of industry, the school of engineering has a third trimester field practical programme (TTFPP) in which students mandatorily go into communities and industries to put into practice what they have learnt. The school of engineering practices the third trimester field practical programme (TTFPP) which mandates students to go into communities to find solutions to problems and later also do industrial attachment to put into practice what they have learnt.

> In my school, our curriculum is structured such that during the third trimesters of the first and second year, students normally go to communities to live with the community and in third year go out for industrial attachment in a programme we call Third Trimester Field Practice Programme (TTFPP). The aim is to try and find out the problems the community faces and then they research into the problems to try to find solutions to them. During the third trimester of first year, students are required to solely do facts finding in the communities they go to, then after eight weeks lecturers go there to examine them to find out what they have found out concerning the challenges and the potential of the community during their stay. So, after they have identified the problems for the first year, they go back the third trimester of second year to the same community they went to try to find possible solutions to the problems they discovered in their

> previous stay. For example, if a student discovers that a community has a problem with their farming practices, he or she can go to the farm and observe their farming activities. If the community is into producing shea-butter the student can research into the processes of mechanizing the activities involved. But for the third year, we normally send students to industry, so we send them to the various industry throughout the country for them to go and practicalize whatever they have learnt in the classroom. We write to institutions to find out whether they will be able to accommodate our students because we have quite a lot of students and so they usually respond to us with the number of students they will be able to accommodate during that time. For instance, we went to Japan Motors in Tamale here and they were able to accommodate only five students. This year, we have one of our students at Aboadze thermal plant in Takoradi, another one at Carmeuse limestone factory also in Takoradi and two students at Tema harbor and there are others all over the country who did their industrial attachments with those industries. Also, whiles students are on their industrial attachment and finding opportunities to practice what they have learnt in the classroom, we also urge them to identify some problems or issues in the industry that could be researched into so that when they come back to school they will be guided by their supervisors so they can coin out a project from the problem they identified and work on it. Usually, getting to the end of students' industrial attachments we send out lecturers as assessors to the industries or companies in which students are doing their attachments to go and examine students' performance. We also have forms for industrial supervisors to assess our students and give their comments on students' performance. Every year, there are thousands of students in the country who seek to do industrial attachment with industries. Due to the large number of students and the fact that there are not many industries in the country, it becomes difficult for companies to accept a lot of our students (IR#5).

University for Development Studies (UDS) develops and trains its students with practical knowledge and nationally relevant courses that adhere to the mandates of the departments that run the programmes. UDS is required to equip students with prior practical knowledge that industry requires its employees to have before they start work. Industry requires practical knowledge and so students are provided with varied opportunities that will help them translate theoretical knowledge into practical knowledge.

> As an academic, I keep on updating myself with updates from industry and I am aware of the fact that they prefer employees who can put into practice, theories of engineering and so when I teach I do my best to give my students a variety of opportunities to translate the theories they have learned into its practical aspect. For example, when I give students examples I make sure they are practical examples. I give the assignment and examination questions that require them to relate the theories learnt into practical components (IR#6).
>
> –As a lecturer, I know that the industry requires practical and not theoretical knowledge and so what I do as an engineering lecturer is that I ensure that, almost all of the courses I handle have practical components" (IR#7).

Students are mostly taught theory-based courses with a few other courses being taught as theory related to practice. The courses taught in the departments are mostly theoretical with a few being theories related to practice and the school of engineering does not have enough machinery equipment in its workshop to give students the opportunity to do practical work.

The courses studied were theory related to practice. The nature of the courses studied was not always theory related to practice because the workshop of school of engineering did not have enough machinery or equipment to do practical work. Most of the courses studied were theoretical and not theory related to practice.

> The nature of the courses we studied were mostly theoretical with a few of them theory related to practice. For some of the courses, the approach that were used in teaching them signaled that they were supposed to be taught with practical sessions but we did not go through those practical sessions. The school of engineering in my university is eight years old, which I think is young as compared to other schools of engineering in the country. Due to its young nature, the school has not been able to equip our workshop with all the necessary machinery or equipment that we would have needed to help us have effective campus practical sessions. Hence, most of our courses that had been originally designed to be theory related to practice were often learnt as theory-based courses (FG#10).

The opinion of respondent FG#10 is supported by Addai (2017) who stipulated that there is evidence pointing to the fact that, Ghana and many other African countries have educational systems that are theoretical with less practical knowledge.

> I would say the nature of our courses was theoretical. For example, we offered a course called, _strength of materials' in which we learnt about theories on various structures of materials, their properties and what to know when dealing with materials. The nature of our engineering programme is such that when we start practicing, we will make use of variety of materials and so the course offered as prior knowledge on what to know when designing certain components and the procedures to follow. Other courses like _machine design' and _petrol chemicals' but the latter only introduced us to the petroleum industry and I found the content to be shallow, I still think if I find myself in a petroleum company, I would know a little of the basics required (FG#14).

Students are mostly taught theory-based courses with a few other courses being taught as theory related to practice. Students are taught courses that are mainly theory-based, and others are theory related to practice. The nature of the courses studied was mainly theory-based and a few were theory related to practice. The nature of the courses studied was partly theory-based and partly theory related to practice.

> I would describe the nature of the courses I studied as theory-based even though they were a little bit of practical sessions, but I still think the courses were mainly theoretical. For example, we studied a course called, _strength of materials' which largely included calculations and diagrams. However, I think the examination and assignment questions could have been more of requiring us to apply what we had learnt and during lectures I expected that the examples given to explain the theories could have been related to real life problems. I say this because I saw in some mathematical textbooks some examples that would enable you to analyze what has been taught so that when you find yourself at the workplace you would be able to do it. My point is, even if there are no opportunities to go to industry frequently to learn, I think going through more practical sessions on campus would be better in making graduates work-ready (FG#13).

"I would describe the nature of the courses I studied as partly theory-based and partly theory related to practice. Most of the courses we studied were mostly about theoretical concepts and others were theory related to practice" (FG#21).

"In my opinion, I will say 80% of the courses we learnt were theory-based whereas the other 20% were theory related to practice" (FG#14).

Exchange programme collaboration between UDS and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. UDS collaborates with industry through accreditation and exchange programmes to align universities courses to the requirements of industry. The department collaborates with industry through accreditation and reaccreditation processes, invitation of industry experts to give their relevant inputs, visitation of workshops and laboratories, field trips and through students' industrial attachment.

> During accreditation and reaccreditation processes one of the requirements is to prove how the programme is suited for industry. The proposed curriculum is crafted to depict what industry requires from an academic institution then it is presented to Ghana Tertiary Education Commission (GTEC) to accredit or re-accredit the programme. So, after every three years, you need to resend the document for reaccreditation and to be able to do that, you need to invite all stakeholders which should include industry experts and engage them, then you take into consideration their relevant inputs and redevelop the curriculum to suit industry because the demand of the industry changes over time. Also, we have industrial attachment during which our students go to an industry to learn from during their third year third trimester (IR#1).

The accreditation and reaccreditation process described by respondent IR#1 is supported by HCRC (2009) which described the industry‘s curriculum development function as their ability to help lecturers keep the curriculum relevant to industry expectations.

> We have a workshop where we send our students to teach them how to do fabrication of coal pots, door hinges and other small artefacts. Our students also go on industrial attachment for one trimester where they go to industry to work and acclimatize to work environment. As lecturers, we go to where our students are doing the attachment to supervise the work they do and interact with their industrial supervisors to find out how our students are performing. For example, three weeks ago, I went to Tema harbor, Irani Brothers Mill and several other companies to supervise our students. Also, we have a period in which we send our students for laboratory work, which is a scoring course but because we do not have the required equipment on campus, we have arranged with Tamale Technical University (TaTU)

> and we take our students out there when it is time for the course to have their laboratory work (IR#2).
>
> At the department of agricultural engineering, we try as much as possible to make sure we teach our students practical aspects and so we sometimes send them to the field to have a real-work experiences of some of the concepts we have discussed in the classroom and we give them assignments that would require them to go into the field to find out certain measurements which would require them to apply the theories they have learnt. Also, during the third trimester of third year, our students go out for industrial attachment for a minimum of six weeks. During this time, students go to companies or industries that are related to the field of engineering, they had already applied to and had been accepted, to go and observe, learn and practice engineering related activities. Also, during the third trimesters of first and second years, students go out into communities to observe and attempt to find solutions to real life problems (IR#6).
>
> In my department, we collaborate with industry through industry tours, industrial attachments that are mandatory for our students to embark on and practical learning both on and off campus. We also collaborate with professional bodies who are industry gatekeepers for their inputs when developing our programme‘s curriculum (IR#7).

The opinions of respondents IR#6 and IR#7 are supported by HCRC (2009) which stated that the industry serves a curriculum development function which is to strengthen career and college pathway by linking the integration of academic instruction and career and technical education to real jobs.

Exchange programme collaboration between UDS and industry align university courses to industrial requirements to enrich students' learning and work experiences. Universities that have not been in existence for long do not have strong links with industry and as such their students go out on their own to seek industrial placements. Students send letters of introduction received from their departments to industries to apply for placements and when they begin their industrial attachment, they write down their daily experiences into their logbooks. The department helps students find placements with companies it collaborates with within the region when students are not successful in finding placements on their own. Due to its young nature, there is no

or little collaboration between the department and industry and that is the main reason why students search for placements on their own.

> First, as students we were given letters of introduction from our departments to companies, we wanted to do our industrial attachment at. I sent my letter to a number of companies and one of them accepted my application. For school of engineering, when we were about to go for the industrial attachment, they gave us logbooks and, in the logbooks, there were tables designed in them and students were expected to write in them daily what they had learnt at the workplace. We had to indicate what new things we had seen and learnt each day and new things we had learnt that we were not taught, shown or talked about in school. There were also portions in the logbooks for industrial supervisors to sign and give their remarks every week on whether the student really participated in his/assigned activities or they did not participate. Our lecturers were also assigned to us as our school supervisors and as part of their responsibilities, they were to keep in touch with our industrial supervisors and follow-up on our progress. At the end of the attachment, we were asked to write reports on all that we learnt throughout the industrial attachment (FG#8).

> In my opinion, lack of collaboration between our department and the industry meant that a student had to find industrial attachment placement on his/her own. Lecturers came to the field to assess students‘ performance, however, the assessment process sometimes faced challenges. There were times that students did their industrial attachment at remote or far distant places that lecturers found difficulty in travelling to. My roommate did his attachment at a place that was far away from Wa in the Upper West Region and so the lecturer who was assigned to him could not go and assess his work and therefore assessed him through a phone call. If our department collaborates with industry, they will be able to negotiate for groups of students to do their industrial attachment at particular industries and that will offer them the opportunity to assign one lecturer to a group of students who are in one company and that will make the assessment process very easy and less expensive because if students go wherever they want across the country, it would make assessing all students difficult (FG#10).

> Our school of engineering is young and so it has not been able to establish a lot of links with industry. When it comes to industrial attachment, majority of us made our own arrangements in order to find a place to do our industrial attachment, however, the department has linked up with some industries/companies in the Northern region and so when some students are not able find a company to work with, the department does its best to link up students who were not able to find a company to work with. We were told that department is putting things in place to establish links with more industries (FG#3).

Exchange programme collaboration between UDS and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. UDS collaborates with industry to receive industry's input in reviewing curriculum to meet the requirements of industry. There is collaboration between universities and industry such that members of industry are invited to give their input into programme development and programme reaccreditation so that course contents can be reviewed with new changes in industry. In the first place, before a university starts to develop a programme it is required to contact industry and key stakeholders for their input.

> Students are first and foremost trained for the workforce. Even though entrepreneurship is encouraged, most graduates go to industries to seek jobs right after school and so it is only prudent that we require universities to consult industries for their inputs in developing the programme to meet industry requirements. We make sure you attach letters and evidence of the university‘s back and forth communication with the industry in question. When the time is due for reaccreditation, the university is expected to send their reviewed curriculum back to industry again for them review and enrich course contents with new changes that have occurred in industry (IR#4).

Students are taught theory-based courses which creates a gap between university courses and the requirements of industry. Students are taught theories related to practice that bridge the gap between university courses and the requirements of industry. On one hand, it appears there is currently a gap between university courses and the requirements of industry because most of the courses students learn are theory-based with a few others being theory related to practice. On the other hand, due to the fact that universities seek industrial input from industry experts in reviewing their curriculum to meet with industry requirements, it can be said that there is currently no gap between university courses and the requirements of industry.

There is currently a gap between university courses and the requirements of industry because most of the courses taught were mostly theoretical and lacked practical

sessions that would equip students with hands-on experience that will make students work ready and because universities do not change their curriculum as quickly as there are changes in industry. There is no gap between university courses and the requirements of industry because universities send their proposed curriculum to industry experts for their input on how to develop the proposed curriculum would match the needs of industry. In one breath, there is no gap between university courses and industry requirements because universities seek for industry input during curriculum development and universities that have been in existence for decades have established strong links with industry such that lecturers who have industrial experience incorporate it into their teaching but in another breath universities who have not been in existence for long do not have strong collaborations with industry and lack adequate tools and equipment and that creates a gap.

> I agree to some extent with the assertion that there is currently a gap between universities' courses and the requirements of industry, but I think the gap is very wide and it goes beyond the tertiary level. I think that our entire educational system, in my opinion needs an overhauling right from the scratch and not just at the tertiary level. I say that because the students that we receive each year at our engineering faculty lack the ability to apply the theories that they learn to how they can be applied. I believe that if students go through a lot of practical sessions and are taken through critical thinking right from basic school the caliber of students we receive here at the university. I feel the mindset of students is such that it is even too late at this point to try to align them to industry requirements (IR#1).
>
> I do not agree with the assertion that there is currently a gap between university courses and the requirements of industry. This is because before we develop our programmes we send the proposed curriculum to industry for their inputs. So, for example, when you pick the curriculum for our accredited programme you will see that we collaborated with industry stakeholders such as Ghana Water Company, Volta River Authority and Ghana Institute of engineering which is an engineering council. Due to these collaborations, I do not think there is a gap between our programmes and industry requirements (IR#2).

I partly agree and partly disagree with the assertion that there is currently a gap between universities‘ courses and the requirements of industry. I say this because, during the development of our programme we have wide consultations with industry practitioners to get their take on our proposed curriculum by making inputs on how we can make our course contents as practical as possible. Also, some of our lecturers are members of professional bodies, so personally, I am a professional engineer and I practiced in the industry for about seven years before coming into academia and fortunately for me I have been part of the development of our programmes and so I brought in my industrial experience that I knew would be beneficial into the programme development. Students will always need to learn from first principles and so we teach them the theoretical basis for what is happening in world of work. For engineers we teach them theories first before we move on to design experience and the practical aspects and so sometimes, it may seem that we are at a disconnect with industry, but it is because we have to teach our students certain basics before they can go out into industry. But also, training of engineers is very expensive because you have to do a lot of laboratory work and you have to go to the field as well so sometimes because we are still growing as an institution and as a developing country, the truth is, sometimes, we are not able to really give our students a total feel of practice or of industry. But we are trying to improve the situation by trying to have a lot of linkages with industry so that the gap that exists can be bridged and as lecturers we try to get projects and partnerships with industry so that we can guide our students to research into industry related issues (IR#6).

I agree with the assertion that there is currently a gap between university courses and the requirements of industry. In my opinion, the assertion is at least eighty-percent true. In my opinion, what we learn in school is mostly theoretical. Our school of engineering lacks the necessary infrastructure and equipment/machinery to teach us all the practical sessions we would need and so arrangements have been made for us to go to KNUST which has one of the oldest schools of engineering for such practical sessions. However, my year group was not able to go anywhere including KNUST for practical sessions because of Covid-19. Basically, we learnt how to practice what we learned on the internet such as Youtube and sometimes in the classroom, but Covid-19 reduced the contact hours heavily and so we were not able to really do what we had to do. When a trimester begun, the first two weeks were used for other activities and so by the time we actually started lectures, two weeks had been used and the remaining weeks were not enough because by the time we started lectures, it did not take long and before we realized we had to prepare for examination but we had done just the introductory aspect of the course. When you compare universities in Ghana to schools in developed countries like Europe or America, you will realize that there are vast differences. In my opinion, universities in developed nations deal with real time data

> or hands-on experience. In most of the engineering schools in those nations, they work with equipment such as modelling equipment, simulating equipment and robotics but in Africa, most universities lack the necessary equipment to help their students practicalize what they have learnt so that they can establish linkages with industry requirements (FG#11).

4.3 Effect of WIL on Students' Employability

Students are taught theory-based courses which do not fully prepare them with work ready skill that will make them market ready. Students are not adequately prepared with the necessary skills they need to meet the requirements of industry but are rather equipped with a lot of theoretical knowledge. Students were not fully prepared with the necessary skills needed to meet the requirements of industry but were rather equipped with a lot of theoretical knowledge. Students did not feel adequately prepared for the requirements of industry during industrial attachment, but the final year courses that were learnt after industrial attachment had a correlation with the requirements of industry.

> My experience with my current employment has shown me that my school partly prepared me towards the requirements of the workplace because there are times that I am faced with tasks that I can relate to what I learnt in school and there are times that I have no idea what to do about certain tasks. Day in day out, I encounter situations that require my input, but I have no idea what to do about them even though such situations are associated with my programme of study and would require my expertise. Engineering is very broad and I am not saying my school had to teach us everything in engineering, but we could have covered as much as possible if we had been given more opportunities to engage in practical learning (FG#9).

> The first three years of our four-year programme were focused on general engineering courses and so it was after our industrial attachment that we did courses that were related to our area of specialization. Therefore, in my case, the courses I had studied before my industrial attachment did not really help me during that period because I did not feel adequately prepared for the requirements of the industry, I was placed in which was mainly into mechanics. However, some of the theories we had learnt helped and I was able to think quickly on my feet. In level 400 we specialize in courses such as fluid mechanics, automobile, etc and I believe those provided us with so

> much insight into our programme of study which is mechanical engineering. During my national service, I was fortunately posted to a company whose activities were directly related to my programme of study. I remember when we began, our supervisor asked us to explain to him the meaning of a top converter. None of the people I was doing the service with was able to explain the concept except me and that signaled to me the importance of the theories we learn. However, when it comes to most of the activities I was expected to work on, I found that the final year courses that we learnt and those activities expected from me had direct correlation even though the courses were theory-based. Because the courses were mostly theory-based, when you and a mechanic who is in the field speaks, there is vast difference and you will understand what the mechanic says better than what the person from the university says. In my case, one of the courses we studied entitled, _power train' which are related to automobiles, greatly helped me during my national service because I worked at the power train sector of my company. Even though I did not know how it works, when they explained to me how things work, I easily understood it because of the course I did. So, I will say that if we had studied our specialty for much longer, for example two years or more, that one could have helped me to be better prepared. However, my current full-time employment is with the same company I did my national service with and so the experience I gained during that time has greatly helped me (FG#21).
>
> The work I am currently doing full-time is not directly related to my programme of study. However, I did an industrial attachment with an auto mechanical shop and during that time I realized that my school prepared with more theoretical knowledge but a little practical skills knowledge. I believe that if I had had more practical experience, I would have been more work ready (FG#6).

WIL increases industrial productivity and makes students work-ready. Graduates with WIL experience are usually employed by over graduates with no WIL experience. Employers employ graduates with WIL experience over those who have no WIL.

–Personally, anytime I am part of the recruiting team, I look out for those who can easily relate practicality to what they have learnt and not someone who will just define concepts and cannot really attach any practicalities" (IR#3).

The demands of respondent IR#3 align with Edwards et al. (2015) who indicated that employers are presently demanding that graduate applicants have relevant experience, proof of work-readiness and the non-technical skills to work effectively in the working environment.

4.3.1 Employability Skills of Graduates in Industry

Students are taught theory-based courses which do not fully prepare them with work-ready skills that will make them market ready. Students present very basic practical knowledge during their industrial attachment because there is a gap between university courses and the requirements of industry. Students go into the workplace with very basic practical knowledge and so the lack of such practical knowledge has created a gap between university courses and industry requirements, but some universities are doing well to close such a gap whereas others are not.

> Because of the work I do, I might be a bit biased with my answer to this question. Although the petroleum corporation was established in 1983 and started its operations in 1985, it took a while for it to find its grounds. Therefore, I think our industry is quite young as compared to other forms of engineering and so it has not been so long since universities started doing courses in petroleum (oil and gas) and so I often tell the students who come to us that the knowledge they have acquired is very basic, is about ten percent of what we require of them to work and so we take them through intensive training. Also, when we do go to lecture as industry experts, we try to bridge this gap as much as possible by making what we teach practical as much as possible instead of the very theories they learn at school. So, I must say that personally I have worked with a lot of students and I will say the practical knowledge that they bring in usually is very basic and there is so much room for improvement. I will partly agree with the assertion that there is currently a gap between universities‘ courses and the requirements of industry. Personally, I have studied two forms of engineering, the very first engineering I studied was a form of engineering that has been taught for decades and so it was very practical and we could easily catch up when we get to industry however the second form of engineering, I studied is relatively new and the linkage with industry had not been strongly established. Therefore, the reason why I said I partly agree is that I think some

> universities have tried to close the gap whereas for others there is more to be done to close the gap (IR#3).

4.3.2 Employers' Requirements of Graduates

WIL increases industrial productivity and makes students work-ready. WIL is beneficial to students because it makes students work ready to meet industry's requirements. Employers prefer to employ graduates who are work ready graduates over those who are not and so WIL is beneficial because it improves students' work readiness.

> I completely agree with the assertion that WIL improves students' work-readiness. Employers would employ work-ready students over those who are not work-ready because they will spend less time and resources to train graduates that they employ because they have been equipped with the required skills and competencies such that it will take little time to get them to adapt with the work environment. So, for instance, in the technical universities their curriculum is now solely competency based, so their academic rewards are not like the mainstream universities where they award 1st class and others but rather their award system is structured as high competence and others (IR#4).

The opinion of respondent IR#4 agrees with Victoria University (2007) who opine that WIL is used to improve students' employability skills and that a graduate who possesses such skills can be viewed as being work-ready and someone who is prepared with a set of skills, knowledge, and experiences to transition seamlessly into the workforce after graduation.

WIL increases industrial productivity and makes students work-ready. Students' participation in WIL develops students more quickly than non-participation. Participation in WIL develops students more quickly than lack of participation.

> In my experience, students who have participated in WIL develop more quickly as compared to students who have not participated in no or little WIL. When students have participated in WIL it takes less resources to get them up to speed at the workplace because they have a little workplace experience as opposed to students who have not participated in WIL (IR#3).

4.3.3 WIL and graduates' employability

WIL increases industrial productivity and makes students work-ready. WIL is important because it offers students hands-on, employable skills and work experience that enhances graduates' employability because they are market ready. WIL increases graduates' employability because it provides them with hands-on experience and employable skills because it makes them work and market ready. Theory related to practice offers graduates work experience which employers often look out for.

> I think WIL increases graduates' employability. In my opinion, when students are exposed to practical sessions, it gives advantage over their peers and puts them in a better position to be able to prove their capabilities and at the end finding employment (IR#1).
>
> There is a Chinese proverb that goes, "I hear I forget, I see I remember, I do I understand". This is so true because students turn out to forget most of the theories the learn but when they are given the opportunity to practice those theories, they will have the hands-on experience that they will not forget. We do our best to incorporate WIL into our curriculum because we believe that will provide them with practical and employable skills that would be beneficial to their future employability (IR#2).

The opinions of both IR#1 and IR#2 are supported by Tomlinson (2012) who indicated that it has been demonstrated that WIL effectively develops graduates' career-related skills.

> WIL has great potential to increase graduates' employability because it makes them work and market ready. When students' programmes are theoretically inclined it would mean employers would have to spend a long time to teach them practical components to build their experience and I think no employer would be happy to spend a lot of money and time to train their new employees. But if course contents are linked with the practice of work and they are more practice oriented, then by the time the student graduates, he/she will be work ready and employers would want to employ graduates that they do not have to spend a lot of resources to train and get them ready for their job requirements (IR#6).
>
> Employers often look for prospective employees who have acquired work experience and gaining experience is often associated with theory related to practice. This is because there are thousands of students who graduate from pursuing engineering there has to be something that

> makes a graduate different and special from the rest in order to get employment and I believe WIL is one sure of increasing graduates' employability (IR#7).

WIL increases industrial productivity and makes students work-ready. WIL provides students with hands-on work and industrial experience that makes graduates work ready and prepares them for future employment. Even a little WIL experience has the potential to increase graduates' employability.

WIL involves supporting theories with practical knowledge and that provides students with hands-on and work experience that makes them work ready and prepares them for future employment. WIL in the form of industrial attachment provides students with industrial experience that makes graduates work ready. Even a little WIL has the potential of increasing graduates' employability. Graduates find WIL has a little influence on their employment even if the job is not related to their programme of study.

> Providing students, the opportunities to practice the theories they learn is beneficial because it makes graduates work-ready and industries prefer work-ready graduates to graduates that they will have to spend thousands of Ghana cedis to train them as their new employees. In my opinion, if a graduate has acquired both theoretical and practical knowledge, he/she is far better than someone who has acquired only practical knowledge like those who in apprenticeships because the graduate who has both theoretical and practical knowledge can present high level thinking and can easily find solutions to critical problems (FG#10).
>
> In my experience, the industrial attachment I did gave me a little industry experience and the few practical sessions prepared me for work. But I believe I would have been more work-ready if I had had more of industrial experience and acquired more practical knowledge and skills (FG#5).
>
> When I did my attachment, I got the opportunity to really see how some of the theories I had learnt play out. I also got the opportunity to also practice what we had learnt, learn new things and see the dynamics at the workplace. I think I acquired a little work experience so that I can one day display some skills required by prospective employers. However, I think if I had had more of those practical

> sessions and industry experience, it would really influence my future employability and make me more work ready (FG#3).

WIL increases industrial productivity and makes students work-ready. Establishing occupational or industry networks is important for majority of graduates who would seek employment with industry because it prepares graduates for the world of work and offers students the opportunity to work with industry to gain practical knowledge of the theories they learn. Occupational or industry networks are important because most graduates would seek employment with industry. Occupational or industry networks are important because they ease the processes to industrial attachment and increase the employability of graduates with industrial experience. Occupational or industry networks are necessary for students to learn outside the classroom and gain industry experience.

> It is very necessary for universities to establish occupational or industry networks because majority of graduates would work with industry and so it is only prudent that universities establish networks with industry so they can find out their requirements and train students to meet their needs. Networking with industry would help universities establish links that would enable the teaching and learning process. However, I believe the collaboration should not be initiated by only universities but also industry should also make a deliberate attempt to collaborate with universities. There are few universities and industries who have taken the steps to establish collaborations in order to share the mutual benefits such collaborations produce. One of such benefits is that when industries collaborate with universities and help universities shape their programmes to meet their needs, industries will spend less money in training new employees since graduates would have acquired most required skills (FG#17).

> It is very necessary for universities to establish occupational or industry links. This is so because the experience during my school years was that it was not easy to find a place to do my attachment, and I think part of the reason was that most companies were not sure of the caliber of students from my school since they did not have any agreement with them. So, networking with companies would give them the assurance that they can also communicate to universities any grievances they may have. When I finally got a place to do my industrial attachment, I could feel the appreciation the staff had because they said I was very hardworking. They shared with me that

> they usually do not want to accept students for their attachment because they usually are not hardworking and do not seem ever ready to learn new things. I suggest that universities give proper orientation to their students on the importance of industrial attachment and urge them to do their best with their temporary employers (FG#7).

WIL increases industrial productivity and makes students work-ready. The least amount of WIL experience for students has the potential to have a little influence on students' future employment. Even a little WIL has the potential of increasing graduates‘ employability.

> In my experience, the little practical knowledge and skills I acquired helped me to gain a little job experience which I believe had a little influence on my current employment however, I believe I would have had employment sooner if I had experienced more opportunities to acquire practical knowledge. Also, I believe I would have been able to acquire a much higher paying job and position if I had gone through much more WIL (FG#18).

4.4 Developing university courses to meet industry’s requirements

UDS modifies its curriculum so that it can remain relevant. UDS modifies its curriculum through research development and that ensures that they remain relevant and contribute to the nation's economic and industrial growth. Through research development UDS can modify its curriculum in order to remain relevant.

> Of course, I one hundred percent agree with the assertion that universities need to modify their curriculum in order to remain relevant. The oil and gas industry that I work in is very dynamic, therefore, it involves doing a lot of research and development for the work we do and to upgrade ourselves as employees. In the same vein, I think universities should engage in a lot of research development to find out ways they can modify their curriculum to meet industry requirements and to also let their faculty upgrade themselves in order to catch up with industry. For instance, in my industry, the new challenge is energy transition and so those of us in fossil fuels are eagerly learning and trying to find ways in which we can improve how we can save the climate. This means academia would have to quickly adapt to the changing trends and incorporate these new needs of industry into its curriculum so that students would ultimately benefit from what they learn (IR#3).

Exchange programme collaboration between UDS and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. During re-alignment of curriculum UDS should contact industry for its inputs on new trends and technological advancement, invite past students to share their work experiences, suggest to them what they can do better, do a proper cost analysis on the cost involved in implementing an effective WIL programme and find ways of getting the government and industry to support.

During re-alignment of curriculum, UDS should contact industry for its input, new trends and technological advancement and invite past students to share their work experiences and suggest to them what they can do better. UDS should do a proper cost analysis on the cost involved in implementing an effective WIL programme and find ways of getting the government and industry to support.

> During reaccreditation, we have to ensure that the re-alignment is about trends and technology advancement. For example, in other parts of the world, they use laser equipment for heat treatment but when you come to our part of the world, most people in the field either use furnace or charcoal and put metal inside it to heat to a certain temperature and then remove it and hit on it to shape it into what they want. Therefore, you can imagine the gap that exists due to research or technological advancement. Reaccreditation therefore allows universities to change their teaching methodologies if necessary and also update the curriculum with latest innovation research from industry (IR#2).
>
> In my opinion, I think universities should involve industry more than what they currently do by involving experts from industry to actively participate in the re-alignment process. Also, universities should invite old students to share their experience in the field and make inputs into how the re-alignment could be done to meet industry requirements (IR#6).
>
> In my opinion, a real cost assessment should be done to determine the money involved in implementing effective learning and come up with practical steps that would minimize the likely huge costs involved and also look at means to get government and industry on board to assist with the costs involved (IR#7).

Exchange programme collaboration between a university and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. A university should establish a collaboration with industry that would let lecturers go to industries for industrial training to keep them up to date with industry requirements. There should be a collaboration between university and industry that would let lecturers go to industries for industrial training to keep them up to date with industry requirements.

> The oil and gas industry is a very busy industry and so even though we have a few universities who bring to us to give input into their curriculum, we are very busy because we might not be able to help as much as we should because the requests are enormous. I mean we might not be able to go to campus every time to give lectures. Therefore, I would suggest that universities build the capacity of their lectures. In fact, there was one school that I suggested to them that their lecturers could maybe come to us for industrial training of sorts during their long vacation break. Since the industry is quite young, most of the lecturers have not even worked in the industry before and all they know is the theories so how will this lecturer be able to imbibe some of these practicalities we are talking about to students? So, I think universities should go an extra mile to build their lecturers‘ capacities and even if they will not let them come to the industry for such training, there are a lot of trainers that provide such practicalities that they could bring on board to help them improve (IR#3).

4.4.1 Methods of Developing University Courses to Meet Industry Requirements

Exchange programme collaboration between UDS and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. UDS meets the constantly evolving skills of industry through updating the curriculum with new industrial changes, accreditation and reaccreditation processes, research and project works, and lecturers‘ ability to incorporate such requirements into their course contents.

The accreditation and reaccreditation processes ensure that departments meet the constantly evolving skills of industry. The department can meet the constantly evolving skills of industry through curriculum updates with new changes in industry. Through research and project works lecturers are able to find out the requirements of industry and incorporate such requirements into their lessons.

> Even though the demands of industry keep on changing, I think it depends on how significant the change is. That is why the periodic reaccreditation that we do every three years helps us to re-evaluate our programmes and reveal to us the new needs of industry that we have to meet. However, in my opinion, I do not think we have to solely focus on industry. I think we need to focus on developing our students so that after a certain period we will reassess and train our students to meet that demand rather than focusing on industry and teaching. I do not think we have to always be looking out for what has changed in industry but rather we work with the programme irrespective of what changes have occurred then during reaccreditation, we reassess and redevelop the curriculum to meet current trends. However, as a lecturer I sometimes work with industry through consulting and so I introduce to my students the new things I discovered from industry and I do not wait for the curriculum to be changed before I teach them something new. In my opinion, the curriculum is flexible and so lecturers are expected to do research and update themselves and update their lecture slides so that they can equip students with new information (IR#1).

> Our department urges its teaching staff establish good collaboration with industry by doing research projects and consultancies with industry so as to find out what goes within industry so we can incorporate what we learn from industry into our teaching (IR#6).

The opinion of IR#6 is supported by Kjellén and Svensson (2014) who encourage universities to include empirically oriented fieldwork, such as "projects" or "thesis work," when students leave campus to experience and analyze genuine professional situations as part of their education.

—We send our students to industries to learn during their industrial attachment and also, we review our curriculum every three years to update it with current trends of industry" (IR#5).

The opinion of respondent IR#5 agrees with Atkinson (2016) who encourages that the industry bodies and associations should be considered during curriculum alignment because they are turning out to be progressively engaged with supporting and facilitating WIL.

Universities consult industry for its input during curriculum development. Universities are required to follow GTEC'S guidelines and consult industry for its inputs to develop curriculum that meets industry requirements. By following GTEC guidelines that require universities to seek industry's input in curriculum development, universities would be able to develop programmes that meet industry requirements.

> There is always room for improvement in any endeavour. We have the policies and the requirements, however, in this country, our practice has been that what is usually the practice or the expectation is not what we are usually pushed to do. It depends on we doing our part as regulators and then institutions also must ensure that they expose students to the practical components of courses. Most universities face challenges with laboratories and equipment vis-à-vis the number of students, which makes the implementation or practicing policies very difficult (IR#4).

Exchange programme collaboration between UDS and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. UDS can meet industry requirements through consultations with industry during curriculum development and review, project work defense of students, invitation of industrial experts into classrooms, field trips to industries, industrial attachments, on-campus practical sessions, visitation of industry experts and asking of application questions. The school of engineering can meet industry requirements by replacing community service that is done in the first and second year with industrial attachment that is only done in the third trimester of the third year.

The school of engineering should replace community service that is done in the first and second year with industrial attachment. UDS can meet industry requirements through consultations with industry during curriculum development and review and project work defense of students so that students who come up with brilliant projects might be employed by industry right after graduation. UDS can meet industry requirements through invitation of industrial experts into classrooms, field trips to industries, industrial attachments, on-campus practical sessions, visitation of industry experts and asking of application questions.

> In University for Development Studies (UDS) we practice the trimester system whereas almost all other universities like University of Ghana (UG), Kwame Nkrumah University of Science and Technology (KNUST), University of Mines and Technology (UMAT) and others practice the semester system. Students in those universities that practice the semester system have a lot of time during their vacations and so some students use that period to do attachments with industries so as to gain work experience and as graduates add that work experience to their resume when they seek for employment, they stand a better chance of finding and keeping jobs. However, in UDS our mandate is geared towards development, and due to this mandate the third trimesters of first and second years are used for community service whereby students go into communities in Northern parts of Ghana and this practice is called third trimester field practical programme (TTFPP). However, I see the TTFPP as not very vital to ensuring students are work-ready which I believe should be the focus of every university. I suggest that the third trimesters of the first and second years that are currently assigned for TTFPP should be replaced with industrial attachment because companies now require work experience rather than theoretical experience (FG#9).

The practice of TTFPP as indicated by respondent FG#9 depicts the opinion of McLennan and Keating (2008) who opined that some universities place a strong emphasis on community involvement, particularly with their own local community, as a key factor in encouraging WIL.

> I also think that in reviewing the curriculum, universities should consult the industry when reviewing their curriculum for practical inputs from the industry. Such a collaboration would be very vital to ensuring that graduates graduate with adequate practical skills that would make them more work ready (FG#12).

> I have three suggestions to universities on what they do to ensure their programmes to meet industry requirements. My first suggestion is that there should be more practical sessions within the curriculum so that students would be able to put into practice the theories they learn in the classroom. My second suggestion is that, our examination questions, assignments and term papers should include more application questions that would require students to think through how the theories they have learned can be applied. Thirdly, the curriculum should include more academic tours and fieldtrips and visits by experts from industry who would come around to share with us their experience (FG#14).

Exchange programme collaboration between UDS and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. The department should engage students in more practical sessions such as field trips, workshops and industrial attachment, it should have a good forecast to have strategies for future occurrences like pandemics that are likely to disrupt classroom sessions, it should boost the number of equipment it has in its workshop and encourage lecturers provide their students with the opportunities to put the theories they learn in order to make students more work ready.

> My experience at my current workplace has shown me that my university could have done more to make me more work ready. I personally believe we could have had more practical sessions such as field trips, workshops, industrial attachment and many others (FG#13).

> During COVID-19 pandemic, my school could have done more to ensure we still acquire practical skills we needed. They could have made particular arrangements so we could have practical sessions after the pandemic. I would suggest my institution think of every possible future occurrence that will disrupt the academic calendar just like the COVID-19 pandemic did (FG#8).

Exchange programme collaboration between UDS and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. In efforts to meet industry requirements departments are mindful that there needs to be linkages with industry to facilitate industrial attachment and there should be realignment of curriculum that borders on trends and technology.

The department is mindful that it needs to establish great links with industry to send students for industrial attachment. The department is focusing on realignment of its curriculum which borders on trends and technology. Industrial attachment supervisors find out if gaps exist between what they have taught and what students are learning when they visit them during their industrial attachment. Industrial attachment has been made into a compulsory course so that every student will have industry experience such that the department can meet industry requirements.

> During reaccreditation, we have to ensure that the re-alignment is about trends and technology advancement. For example, in other parts of the world, they use laser equipment for heat treatment but when you come to our part of the world, most people in the field either use furnace or charcoal and put metal inside it to heat to a certain temperature and then remove it and hit on it to shape it into what they want. Therefore, you can imagine the gap that exists due to research or technological advancement. Reaccreditation therefore allows universities to change their teaching methodologies if necessary and update the curriculum with latest innovation research from industry (IR#2).

> Our industrial attachment programme is one way we ensure we meet the constantly evolving skills requirements of industry. While our students are with industry, we do our best to go there and interact with their industrial supervisors and find out the gaps they have identified between what our students know and what they expect from them and we take the points they give us so we can bridge the gap when our students return. Whiles we are there, we also observe the differences between what we teach and what is being practiced so that we can come back to school to do our best to bridge that gap (IR#6).

–We have made industrial attachment an integral part of our curriculum such that it is compulsory and adds up to students‘ final grade point average that they would need to graduate” (IR#7).

Exchange programme collaboration between UDS and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. In order for the department to equip students with practical skills and make students work ready, the department has ensured that it establishes a collaboration between itself and some other universities and companies. The department has taken steps to ensure that there is a collaboration between it and some other universities and companies so that the department can equip students with practical skills and make them work ready.

–My department has linked up with some companies and other universities to provide our students with practical experience that equips them with practical skills to make them work ready” (IR#5).

Exchange programme collaboration between university and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. As a strategy, university develops its courses to meet industry requirements by consulting industry for their inputs into course development. One strategy university employs to develop their courses to meet industry requirements is by consulting industry for their inputs into course development.

–I think universities consulting industry for its inputs into their curriculum is one way universities employ to develop its programmes to meet industry requirements” (IR#3).

4.4.2 Challenges of Incorporating WIL in University Curriculum

WIL is expensive and time-consuming. WIL could be expensive and time consuming although some view it as not time consuming because it is part of the learning process. But those factors should be managed and accepted because quality is expensive and a well implemented WIL makes graduates more work ready. A good collaboration between universities, industry and the state can ensure an effective.

WIL is expensive and time-consuming because quality is expensive and that is a sure way in which students can be made work-ready. Incorporating WIL makes students adjusted to the work environment because of the work experience they have gained. GTEC as a regulatory body does regular academic audits to ensure universities live up to the terms of their accreditation. WIL is not time consuming because it is part of the learning experience for students. This study will hopefully bring a change to the courses universities teach and make graduates more work ready. WIL is how we can ensure our graduates are equipped with work-ready skills. Some universities do not have the necessary infrastructure, tools and equipment to effectively incorporate WIL into their curriculum and so government should help them acquire these equipment so as to ensure quality education. The state should review its national service policy so that it can post graduates to workplaces that are linked to their programmes of study and that would help them gain work experience. The state needs to pay great attention to technological and industry advancement through the implementation of WIL policy. The state should have a re-look at the national service policy because it currently affects graduates‘ ability to be work-ready because they are often posted to places that do not have any link with what they studied. The state should review the entire educational programme so that students who come to the university from

second-cycle schools will be adequately prepared for higher education. Universities and industry should adopt the recommendations of this study. The state should take steps to facilitate collaboration between universities and industries so that the industrial attachment process will be made easy. A well implemented WIL will contribute to industrial and technological growth of the nation.

> It is true that WIL could be expensive but that is how it supposed to be because quality is expensive. I think it is a wrong mindset to think WIL should not be implemented because it is expensive. We should rather look for solutions to circumvent the huge cost involved (IR#1).

The opinion of IR#1 is supported by McLennan and Keating (2008) who stated that WIL surely is resource intensive and that the actual costs may vary depending on the specific type of WIL program and the setting.

> I will use my company as an example, we do provide stipends for interns who do come to learn from us. We do appreciate that in fact staying in this part of the country which is the capital town is not easy. So, we do provide sort of logistical support, transport and lunch for interns with the aim of helping them. We do appreciate the relevance of industrial attachment and that is why we work with a lot of people so we try to pick a lot of students and give them this practical knowledge. Yes, challenges regarding transportation and distance exist but again, it is also to help students become work-ready and so whiles we are doing our best to assist students who come to us I acknowledge that some companies might not be doing the same to help students out and so I would urge those companies to help if it is within their means. I would also urge universities to explore ways in which they can support their students financially to successfully embark on their industrial attachments. Your study I believe will help bring to light the importance of WIL because like I indicated earlier I will pick someone who experienced intensive WIL over someone who graduated with first class but cannot really apply what he/she has learnt. Usually, the educational system focuses largely on students who can write and pass examinations that are sometimes do not test students‘ practical knowledge, but when it comes to an industry like the one I work in we prefer students who are academically good and can put into practice the theories they have learnt (IR#3).
>
> I really appreciate your study, and I think one way that the state can ensure that graduates are work-ready when they finally start full-time employment is to have a re-look at our placement system in our national service. Currently, the practice is that students are largely

> placed in industry without regards for their programmes of study. I think we can do better and ensure that students are posted to companies that would provide students the opportunity to practice more on what they learnt in school so that when they gain full-time employment, they would become more work-ready (FG#22).

4.5 State Support for WIL with Policy Initiatives

A work integrated learning policy establishes link between universities, industry and the state. A WIL policy includes several strategies that would ensure that students are given opportunities to experience the practical aspects of what they have learnt, outline specific details of WIL and the expectations of stakeholders, serve as a blueprint that would detail what should go into the collaboration between universities and industry, involve the state setting up an award scheme to congratulate students who come up with excellent projects that would be beneficial to industry and society, ensure that two years are used to learn theories and the other two years are used to put those theories into practice, and designate GTEC which is the regulatory body to serve as an intermediary between universities and industries.

> Currently the accreditation guide stipulates that we need to incorporate practical sessions in our curriculum but it does not go deeper into the nitty gritty of what that practical session should involve. I would prescribe for the state a WIL policy that outlines specific details of WIL and the expectations of stakeholders like students, universities and employers (IR#1).

> I would prescribe a WIL policy for the state and I would want that to include a role of Ghana Tertiary Education Commission (GTEC) to serve as an intermediary between universities and industry so that they can share with universities the problems they face in industry so that students can take on such problems as their project works. A partnership between universities and industry in which industries would open up their workshops/places of work to students who can go for them to coach/groom them to suit their needs and even employ after school (FG#3).

The opinions of IR#1 and FG#3 are supported by Wellings et al. (2019) who opine that a favourable policy climate is necessary for implementing WIL programmes because policies can be used to support the creation and execution of WIL

programmes, provide criteria for quality control, and allocate financing for both of these activities.

A policy climate is necessary for the implementation of WIL. A policy climate is necessary because it serves as guide for all stakeholders and aids the implementation of WIL and provide uniformity in all universities, the state is accountable to its citizens to ensure quality education, universities need to be held accountable in ensuring quality education. Most importantly, a WIL policy should involve all stakeholders.

A policy climate is necessary for universities to be held accountable in ensuring quality education. A policy climate is very necessary, but the development of a WIL policy should involve all stakeholders.

–I believe a policy climate is very necessary for implementing WIL because when there is a policy it will guide all stakeholders on what to do to ensure successful learning" (IR#1).

–In my opinion, a policy climate by the state is very necessary so that the state would be able to hold universities accountable for ensuring high quality education (IR#6).

> I would agree completely that a policy climate is very necessary for implementing WIL programmes. This is because the state is accountable to its citizens to ensure quality education and industrial and technological growth and so by ensuring and enforcing WIL the state would be ensuring that universities to provide their students with quality education that would provide them with the required skills to promote industrial and technological growth (FG#13).

A policy climate is necessary for the implementation of WIL. The state is responsible for the economic, industrial and technological growth of the nation and so a policy climate to implement WIL is very necessary. A policy climate is necessary because

the state is responsible for the economic, industrial and technological growth of the nation.

> Generally, the state is responsible for the economic, industrial and technological growth of the nation. To ensure such growth the state has established us as a regulatory body whose duty is to ensure that universities provide their students with quality education that will make them work-ready and also contribute to the growth of the country. Therefore, a policy climate is necessary (IR#4).

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Overview

This chapter presents a summary of the key findings of the study, conclusions drawn, recommendations made, limitations of the study as well suggestions for future research.

5.1 Summary of Key Findings

The main findings of the study addressed the four objectives which are; 1. What is the existing connection between university courses of University for Development Studies (UDS) and the requirements of industry? 2. How can work-integrated learning affect University for Development Studies (UDS) students‘ future employment opportunities? 3. How can university courses of University Development Studies (UDS) be developed to meet industry requirements? and 4. How can the state support this innovation of work-integrated learning in University for Development Studies (UDS) with policy initiative to ensure state accountability? The main findings of the study in response to the research questions are presented below;

5.1.1 The Existing Connection between Universities and Industry

The findings of the study regarding the existing connection between university courses and the requirements of industry revealed that exchange programme collaboration between university and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. The findings also revealed that in an attempt to align university courses to the requirements of industry, UDS use practically oriented approaches such as field trips, and visitations to workshops and/or laboratories.

Exchange programme collaboration between UDS and industry aligns university courses to industrial requirements to enrich students' learning and work experiences. Universities collaborate with industry to embark on exchange programmes to enrich the learning and work experiences of students. The GNPC receives students for their industrial attachments and national service. The GNPC collaborates with some universities through memorandum of understanding and sends its staff to universities to teach and review curriculum.

5.1.2 Effects of WIL on Students' Employability

The findings on the effects of WIL on students' employability showed that students are not adequately prepared with the necessary skills they need to meet the requirements of industry but are rather equipped with a lot of theoretical knowledge. The study also found that students present very basic practical knowledge during their industrial attachment because there is a gap between university courses and the requirements of industry.

In terms of employers' requirements of graduates, the study found out that employers prefer to employ graduates who are work-ready graduates over those who are not and so WIL is beneficial because it improves students' work readiness. In relation to WIL and its relation to graduates' future employment opportunities, the study found out that WIL provides students with hands-on, work and industrial experience that makes graduates work ready and prepares them for future employment. Even a little WIL experience has the potential to increase graduates' employability.

5.1.3 Developing University Courses to Meet Industry's Requirements

The study's findings on developing university courses to meet industry's requirements showed that UDS modifies its curriculum through research development and that ensures that it remains relevant and contributes to the nation's economic and industrial growth. During re-alignment of curriculum UDS should contact industry for its inputs on new trends and technological advancement, invite past students to share their work experiences, suggest to them what they can do better, do a proper cost analysis on the cost involved in implementing an effective WIL programme and find ways of getting the government and industry to support. The study found that UDS meets the constantly evolving skills of industry through updating the curriculum with new industrial changes, accreditation and reaccreditation processes, research and project works, and lecturers' ability to incorporate such requirements into their course contents.

5.1.4 State Support for WIL with Policy Initiatives

The study found that a WIL policy includes several strategies that would ensure that students are given opportunities to experience the practical aspects of what they have learnt, outline specific details of WIL and the expectations of stakeholders, serve as a blueprint that would detail what should go into the collaboration between universities and industry, involve the state setting up an award scheme to congratulate students who come up with excellent projects that would be beneficial to industry and society, ensure that two years are used to learn theories and the other two years are used to put those theories into practice, and designate GTEC which is the regulatory body to serve as an intermediary between university and industry.

The study also revealed that a policy climate is necessary because it serves as guide for all stakeholders and aids the implementation of WIL and provides uniformity in all universities, the state is accountable to its citizens to ensure quality education, universities need to be held accountable in ensuring quality education. Most importantly, a WIL policy should involve all stakeholders.

The findings of this study have strong implications. The finding that students are taught more of theory-based courses indicates that there is a need to shift from predominantly lecture-based pedagogy to practice-based and experiential learning approaches such as work-integrated learning. Also, the finding that employers prefer work-ready graduates implies that employability is increasingly dependent on practical exposure, not academic credentials alone. It also implies that graduates without WIL experience face disadvantages in the labour market. Work-integrated learning becomes not optional but essential for improving graduate employability and labour market relevance. The finding that UDS should engage industry and alumni during curriculum realignment implies that: industry input ensures curricula remain responsive to technological advancements and emerging trends. Therefore, curriculum review processes must institutionalize industry-university-alumni partnerships to maintain relevance. Finally, the finding that a policy climate is necessary implies that without clear policy direction, WIL implementation becomes fragmented and inconsistent across universities. The state must play a central role in policy formulation, regulation, and coordination to ensure effective and uniform WIL implementation.

5. 2 Conclusions

1. According to the analysis of the data based on research question one, it can be concluded that there is an existing connection between university courses and the requirements industry because universities use practically oriented approaches such as field trips, and visitations to workshops and laboratories to align university courses to the requirements of industry. Also, UDS collaborates with industry to embark on exchange programmes to enrich the learning and work experiences of students. Finally, GTEC requires universities to develop courses that are relevant to the nation and meet the department's programme mandates. However, the study also found out that the courses taught in the departments are mostly theoretical with a few being theory related to practice and the school of engineering does not have enough machinery equipment in its workshop to give students the opportunity to do practical work. The study concluded that although UDS has a connection with industry, the existing connection is not strong enough and so university courses do not to a large extent meet the requirements of industry.
2. With regards to findings from research question two, it can be concluded that WIL has an appreciable effect on students‘ future employment opportunities. This is because the study revealed that employers prefer to employ graduates who are work ready graduates over those who are not and so WIL is beneficial because it improves students' work readiness. Also, students found industrial attachments as very beneficial because they helped them relate the theories they had learnt to the practice of work.

3. Based on the findings from research question three, one can conclude that methods and strategies such as curriculum modification or re-alignment, strong collaborations with industry for its inputs on new trends and technological advancement and a proper cost analysis on the cost involved in implementing an effective WIL programme are ways through which university courses can be developed to meet industry requirements.
4. Finally, based on findings from research question four, it can be concluded that there currently is no WIL policy and so the state should develop a WIL policy through GTEC and ensure that it guides UDS in the implementation of WIL that would provide students with quality education and because the state is accountable to its citizens and to ensure that they receive quality education.

5.3 Recommendations

The following recommendations are being made based on the findings and conclusions drawn from this study.

1. In the instances where there are gaps, UDS should develop stronger ties with industry to bridge such gaps that exist in the between university courses and the requirements of industry. UDS should collaborate with industry to negotiate for placements for their students during industrial attachments.
2. Industry should avail itself to UDS and receive staff and students who come to them for industrial experience. Industry should provide students who learn from them stipends to assist students financially. UDS should introduce pre-placement training focusing on: employability and soft skills, professional ethics and workplace conduct and finally basic industry-relevant technical

competencies. This will better prepare students to meet industry expectations during WIL placements.

3. UDS must remodify their curriculum with various WIL opportunities whiles initiating rigorous consultations with industry. UDS should establish structured mechanisms to: involve industry representatives in curriculum design and review and engage alumni to share workplace experiences and emerging industry expectations. This will ensure curricula remain current and responsive to technological and labour-market changes.
4. The state through its regulatory body, GTEC should develop a WIL policy that would aid its implementation. There should be clear national and institutional WIL policies that: provide guidelines for implementation. Ensure uniformity across departments of UDS and clarify stakeholder roles and accountability mechanisms. This will strengthen state accountability and reduce inconsistencies in WIL delivery.

5.4 Limitations of the Study

The following are limitations of the study:

1. The study was conducted at only one institution, the University for Development Studies. While this allowed for an in-depth understanding of state accountability and institutional readiness for work-integrated learning, the findings cannot be statistically generalized to all universities. The results are therefore context specific.
2. The study was conducted within a limited timeframe, which restricted the ability to conduct longitudinal follow-up with students or graduates.

5.5 Suggestions for Further Research

The following are suggestions for further research:

1. As a suggestion, research should be conducted to investigate into students' economical experiences in WIL and how it impacts on their academic journey.
2. Future research should conduct comparative studies involving multiple public and private universities to examine variations in state accountability, institutional readiness, and WIL implementation. Such studies would enhance the transferability of findings beyond a single case institution.

REFERENCES

Abelha, M., Fernandes, S., Mesquita, D., Seabra, F., & Ferreira-Oliveira, A. T. (2020). Graduate Employability and Competence Development in Higher Education: A Systematic Literature Review using PRISMA. *Sustainability, 12*(15), 5900. https://doi.org/10.3390/su12155900

Abeysekera, I. (2006). Issues Relating to Designing a WIL Program in an Undergraduate Accounting Degree Program and its Implications for the Curriculum. *Asia Pacific Journal of Cooperative Education, 7*(1), 7-15.

ACCI/BCA. (2002). *Employability skills for the future.* Department of Education, Science and Training.

Accountability Council for Co-operative Education (ACCE). (2015). *BC comparative matrix for WIL education.* https://co-op.bc.ca/sites/co-op.bc.ca/files/2015/ACCE%20Matrix%20-%20final.pdf

ACNielsen Research Services (2000). Employer satisfaction with graduate skills: Research report. Evaluations and investigations programme higher education division: Department of education training and youth affairs (DETYA).

Adams, W. C. (2015). Conducting semi-structured interviews. In Wholey, J. S., Harty, H. P. & Newcomer, K. E. (Eds.), *Handbook of Practical Program Evaluation,* (pp. 492-505).

Addai, S. (2017). *Africa has the largest gap between private sector and academia.* https://www.primenewsghana.com

Adosi, C. (2020). Qualitative Data Collection Instruments: The most Challenging and Easiest to Use. *Institute for Educational Planning and Administration,* 0–7. https://www.researchgate.net/publication/344251614

Afonja, A. A., Sraku-Lartey, K., & Oni, S. A. (2005). Engineering education for industrial development: Case studies of Nigeria, Ghana and Zimbabwe. *ATPS Working Paper, 42.* The African Technology Policy Studies Network. https://www.atpsnet.org/pubs/workingpaper/working%20paper%20series%2042.pdf

Africa-America Institute (2015). *The state of education in Africa report: A report card on the progress, opportunities and challenges confronting the African education sector.*

Akufo-Addo, N. A. D. (2017). The coordinated programme of economic and social development policies (2017-2024). *An agenda for jobs: Creating prosperity and equal opportunity for all.* Government of Ghana.

Akyeampong, K., (2017). Accountability in the education sector: The case of Ghana. United Nations and Educational, Scientific Cultural Organization. https://coilink.org/20.500.12592/2jh1v5

Al, K. M., & Kobziev, V. (2016). An Overview of Research Methodology in Information System (IS). *Open Access Library Journal, 3*, 11.

Alvi, M. (2016). *A manual for selecting sampling techniques in research.*

Ananga, E. D., & Anapey, G. M. (2016). Career Aspiration and Employability Skills Development: Voices of Ghanaian University Students. *Ghana Journal of Higher Education, 2,* 1-17.

Antwi, R., Duncan, D. D., & Tsegah, M. (2019). Establishing Relevance through Cooperative Education in Ghana: A Study of Central University. *International Journal of WIL, 20*(3), 271-281.

Arthur, N., & Flynn, S. (2011). Career Development Influences of International Students who Pursue Permanent Immigration to Canada. *International Journal for Educational and Vocational Guidance,* 11. https://doi.org/10.1007/s10775-011-9212-5

Ashton, W., & Wagman, L. (2015). Marketing Educational Improvements via International Partnerships under Brain Drain Constraints. *Education Economics, 23*(6), 713-734. https://doi:10.1080/09645292.214.944100

Atkinson, G. (2016). *Work-based learning and work-integrated learning: Fostering engagement with employers.* National Center for Vocational Education Research.

Ayoubi, R. M., Alzarif, K., & Khalifa, B. (2017). The Employability Skills of Business Graduates in Syria. *Education + Training, 59*, 61–75. https://doi.org/10.1108/ET-10-2015-0094

Baffour, P. T. (2015). Determinants of Urban Worker Earnings in Ghana: The Role of Education. *Modern Economy, 6*(12).

Baharun, R., Suleiman, E. S., & Awang, Z. (2012). Changing Skills Required by Industries: Perceptions of what makes Business Graduates Employable. *African Journal of Business Management, 6*(30), 8789-8796.

Bartkus, K. R. (2007). A Review and Synthesis of Scholarly Research in Cooperative Education and Internship. *Journal of Cooperative Education and Internships, 41*(1), 56-96.

Bates, L. (2005). *Building a bridge between University and Employment: Work-Integrated Learning.* Queensland Parliamentary Library.

Bates, L., & Hayes, H. (2017). Using the Student Lifecycle Approach to Enhance Employability: An Example from Criminology and Criminal Justice. *Asia-Pacific Journal of Cooperative Education, 18*(2), 141-151.

Bawakyillenuo, S., Akoto, I. S., Ahiadeke, C., Aryeetey, E. B.-D., & Agbe, E. K. (2013). *Tertiary Education and Industrial Development in Ghana.* Institute of Statistical, Social and Economic Research (ISSER), University of Ghana.

Bell, A., Bartimote, K., Mercer-Mapstone, L., Moran, G., & Tognolini, J. (2021). *Exploring benefits and challenges of online work integrated learning for equity students.* National Centre for Student Equity in Higher Education.

Bhardwaj, P. (2019). Types of Sampling in Research. *Journal of the Practice of Cardiovascular Sciences, 5*, 157-163.

Biggs, J., Tang, C., & Kennedy, G. (2022). *Teaching for quality learning at University* (5th ed.). McGraw-hill education (UK).

Billet, S. (2014). *Curriculum and pedagogical bases for effectively integrating practice-based experiences*. Australian Learning and Teaching Council (ALTC).

Billet, S. (2014a). *Guidelines for practice: Integrating practice-based experiences.* Australian Learning and Teaching Council (ALTC).

Boden, R., & Nedeva, M. (2010). Employing Discourse: Universities and Graduate _Employability'. *Journal of Education Policy, 25*(1), 37–54. https://doi.org/10.1080/02680930903349489

Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal,* 9, 27-40 http://dx.doi.org/10.3316/QRJ0902027

Bridgestock, R. (2017). The university and the knowledge network: A new educational model for twenty-first century learning and employability. In M. Tomlinson and L. Holmes (eds.), *Graduate Employability in Context: Theory, Research and Debate, (*339–358). Macmillan.

Bryman, A. (2012). *Social research methods* (4th ed.). Oxford University Press.

Business Industry and Higher Education Collaboration Council (BIHECC) (2007). *Graduate employability skills.*

Calway, B., & Murphy, G. (2011). A Work-Integrated Learning Philosophy and the Educational Imperatives. *Work-Integrated Learning in Engineering, Built Environment and Technology: Diversity of Practice in Practice,* 1–24. IGI Global.

Chan, Y. F., & Balaraman, S. (2017). Workplace Learning of New Engineers in an Automotive Industry. *Sintok International Conference on Social Science and Management*, 4-5.

Chowdhury, F. (2020). Work-Integrated Learning at Tertiary Level to Enhance Graduate Employability in Bangladesh. *International Journal of Higher Education, 9*(4). https://doi.org/10.5430/ijhe.v9n4p61

Choy, S., & Delahaye, B. (2011). Partnerships between Universities and Workplaces: Some challenges for WIL. *Studies in Continuing Education, 33*(2), 157-172.

Clark, J. S., Porath, S., Thiele, J., & Jobe, M. (2020). *Action research*. NPP eBooks. https://newprairiepress.org/ebooks/34

Clarke, M. (2018). Rethinking Graduate Employability: The Role of Capital, Individual Attributes and Context. *Studies in Higher Education*, *43*, 1923-1937. https://doi.org/10.1080/03075079.2017.1294152

Coll, R. K., & Kalnins, T. (2009). A Critical Analysis of Interpretive Research Studies in Cooperative Education and Internships. *Journal of Cooperative Education and Internships, 43*(1), 1-14.

Comyn, P., & Brewer, L. (2018). Does work-based learning facilitate transitions to decent work? *ILO Working Papers.* International Labour Organization.

Cooper, L., Orrell, J., & Bowden, M. (2010). *WIL: A guide to effective practice.* https://10.4324/9780203854501

Creswell, J. W., & Poth, C. N. (2018). *Qualitative enquiry and research design: Choosing among five approaches* (4th ed.). Sage Publications.

Creswell, J.W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Sage Publications.

Cropley, A. (2023). *Qualitative research methods: A practice-oriented introduction.*

Damoah, O. B. O., Peprah, A. A., & Brefo, K. O. (2021). Does Higher Education Equip Graduate Students with the Employability Skills Employers Require? The Perceptions of Employers‘ in Ghana. *Journal of Further and Higher Education*, *45*, 1311–1324.

Danuser, Y., & Kendzia, M. J. (2019). Technological Advances and the Changing Nature of Work: Deriving a Future Skills Set. *Advances in Applied Sociology, 9,* 10.

Dasmani, A. (2011). Challenges Facing Technical Institute Graduates in Practical Skills Acquisition in the Upper East Region of Ghana. *Asia-Pacific Journal of Cooperative Education, 12*(2), 67-77.

De Lange, G. (2004). *Experiential learning cycle with value added strategic thrusts.* Port Elizabeth Technikon.

Denzin, N. K., & Lincoln, Y. S. (2011). *The SAGE handbook of qualitative research.* Sage Publications.

Dolotallas, A. C., & Nagtalon, J. A. (2015). The Effect of Experiential Learning Approach on the Students' Performance in Filipino. *Journal of Education & Social Policy, 2*(6).

Dondofema, J., Mwenje, J., & Musemwa, L. (2020). The Industrial Attachment Programme - History, Benefits, Challenges and its Adoption in Zimbabwe: A Review. *Asian Journal of Education and Training, 6*(3), 412-420.

Donkor, F., Nsoh, S. N., & Mitchual, S. J. (2009). Organizational Issues and Challenges of Supervised Industrial Attachment of a Technical and Vocational Teacher Education Program in Ghana. *Asia-Pacific Journal of Cooperative Education, 10*(1), 39-56.

Dorasamy, N., & Rampersad, R. (2018). *Critical perspectives on WIL in Higher Education Institutions.* Cambridge Scholars Publishing.

Eames, C. (2003). Learning to Work: Becoming a Research Scientist through Work Experience Placements. *Asia-Pacific Journal of Cooperative Education, 4*(2), 7-15.

Edwards, D., Perkins, K., Pearce, J., & Hong, J. (2015). *Work-Integrated Learning in STEM in Australian Universities: Final Report.* Australian Council for Educational Research.

El Mansour, B., & Dean, J. C. (2016). Employability Skills as Perceived by Employers and University Faculty in the Fields of Human Resource Development (HRD) for Entry Level Graduate Jobs. *Journal of Human Resource and Sustainability Studies, 4*, 1.

Ellis, D., & Boyd, W. E. (2014). Procedural Skills, Sketchup and Vodcasting: Distance Teaching of Design Drawing Skills and Student Learning Autonomy. *Creative Education, 5*, 12.

Etikan, I., & Bala, K. (2017). Combination of Probability Random Sampling Method with Non- Probability Random Sampling Method (Sampling Versus Sampling Methods). *Biometrics & Biostatistics International Journal, 5*, 210-213. https://doi.org/10.15406/bbij.2017.05.00148

Etzkowitz, H., & Dzisah, J. (2008). Rethinking Development: Circulation in the Triple Helix. *International Journal of Technology Management and Sustainable Development, 7*(2), 101-115. https://10.1080/09537320802426309

Ferns, S., Campbell, M., & Zegwaard, K. (2014). *Work-Integrated Learning in the Curriculum*, 1-6. HERDSA.

Flanagan, S. K., Margolius, M., Lynch, A. D., & Hynes, M. (2021). *The state of youth employment: Navigating the world of work during COVID-19.* America‘s Promise Alliance.

Fleming, H. (2021). Understanding the Risks in WIL. *International Journal of WIL, 22*(2), 167-181.

Fleming, J., & Eames, C. (2005). Student Learning in Relation to the Structure of the Cooperative Experience. *Asia-Pacific Journal of Cooperative Education, 6*(2), 26-31.

Fleming, J., & Hickey, C. (2013). Exploring Cooperative Education Partnerships: A Case Study in Sport Tertiary Education. *Asia-Pacific Journal of Cooperative Education, 14*(3), 209-221.

Fleming, J., & Martin, A. J. (2007). Facilitating Reflective Learning Journeys in Sport Cooperative Education. *Journal of Hospitality, Sport, Tourism, Leisure and Education, 6*(2), 115-121.

Flick, U. (2018). *An introduction to qualitative research* (6th ed.). https://uk.sagepub.com/en-gb/eur/an-introduction-to-qualitative-research/book261109

Fong, M., & Sims, R. (2010). E-WIL in Student Education. *Interdisciplinary Journal of E-Learning and Learning Objects, 6*(1), 45-60. Informing Science Institute. https://www.learntechlib.org/p/44773/

Freudenberg, B., Brimble, M., & Vyvyan, V. (2010). The Penny Drops: Can Work-Integrated Learning Improve Student‘s Learning? *E-Journal of Business Education & Scholarship of Teaching, 4*(1), 42–61.

Fulgence, K. (2015). Assessing the Status of Entrepreneurship Education Courses in Higher Learning Institutions: The Case of Tanzania Education Schools. *Education+ training*, *57*(2), 239-258.

Gardner, P., & Bartkus, K. R. (2014). What's in a Name? A Reference Guide to Work-Education Experiences. *Asia-Pacific Journal of Cooperative Education, 15*(1), 37-54.

Garg, R. (2016). Methodology for Research. *Indian Journal of Anaesthesia, 60*(9), 640. https://doi.org/10.4103/0019-5049.190619

Ghana Center for Democratic Development (CDD-GHANA). (2020). *Higher education and labour market situation in Ghana: A case study of the relationship between university education, labour market and government policies.*

Ghana Tertiary Education Commission (GTEC). (2023). Accredited Institutions. https://gtec.edu.gh/accredited-institutions

Godat, M., Yahaya, R., Singh, P., & Euler, T. (2007). Virtual Golden Foods Corporation: Generic Skills in a Virtual Crisis Environment. *Journal of Educational Multimedia & Hypermedia, 16*(1), 67. https://doi:10.1097/NMD.06013e3181e07d66

Goode, F. (2017). *Approaches to Ghana's Higher Education challenges drawn from the U.S. community college model.* Walden University.

Govender, C. M., & Wait, M. (2017). Work-Integrated Learning Benefits for Student Career Prospects - Mixed Mode Analysis. *South African Journal of Higher Education, 31*(5), 49–64.

Grace, S., & Grant, A. (2017). Virtues in Clinical Practice: Teaching Students about the Complexities and Depth of Professional Practice. *Creative Education, 8*(13).

Griffiths, D. A., Inman, M., Rojas, H., & Williams, K. (2018). Transitioning Student Identity and Sense of Place: Future Possibilities for Assessment and Development of Student Employability Skills. *Studies in Higher Education*, *43*, 891–913.

Hall, M., Pascoe, D., & Charity, M. (2017). The Impact of WIL Experiences on Attaining Graduate Attributes for Exercise and Sports Science Students. *Asia-Pacific Journal of Cooperative Education, 18*(2), 101-113.

Hani, S., & de Marcellis-Warin, N. (2016). Open Innovation and Involvement of End-Users in the Medical Device Technologies‘ Design & Development Process: End-Users‘ Perspectives. *Technology and Investment,7*, 3.

Harrell, M. C., & Bradley, M. A. (2009). *Data collection methods: Semi-structured interview and focus groups.* RAND National Defense Research Institute.

Harvey, L. (2005). Embedding and integrating employability. *In Workforce Development and Higher Education: A Strategic Role for Institutional Research* (pp. 13-28). Jossey-Bass.

HCRC. (2009). *Industry partners play a major role in curriculum alignment.* www.california.educatorsnetwork.com

Holmes, L. (2013). Competing Perspectives on Graduate Employability: Possession, Position or Process? *Studies in Higher Education, 38*(4), 538-554. https://doi.org/10.1080/03075079.2011.587140

Hosain, M. S., Mustafi, M. A. A., & Parvin, T. (2023). Factors Affecting the Employability of Private University Graduates: An Exploratory Study on Bangladeshi Employers. *PSU Research Review, 7*(3), 163-183. https://doi.org/10.1108/PRR-01-2021-0005

Iipinge, S. M., Batholmeus, P. N., & Pop, C. (2020). Using simulations to Improve Skills needed for WIL before and during COVID-19 in Namibia. *International Journal of WIL, 21*(5), 531-543.

Ilaiyan, S. (2013). Difficulties Experienced by the Arab Teacher During His First Year of Teaching as a Result of Personal and Organizational Variables. *Creative Education, 4*(6).

Immerwahl, J. (2000). *Great expectations: How Californians view higher education.* National Center for Public Policy and Higher Education and Public Agenda.

Inkster, R. & Ross, R. (1998). Monitoring and Supervising the Internship. *National Society for Experiential Education Quarterly*, *23*(4), 10-11, 23-26.

International Journal of Work-Integrated Learning (IJWIL). (2023). *Definition of Work-Integrated Learning (WIL).* https://www.ijwil.org/

International Labour Organization (ILO). (2017). *World employment social outlook.* International Labour Office.

Jackson, D. (2010). An International Profile of Industry-Relevant Competencies and Skill Gaps in Modern Graduates. *International Journal of Management Education*, *8*(3), 29–58.

Jackson, D., & Wilton, N. (2016). Developing Career Management Competencies among Undergraduates and the Role of WIL. *Teaching in Higher Education, 21*(3), 266–286. https://doi.org/10.1080/13562517.2015.1136281

Jilcha, S. K. (2020). Research Design and Methodology. *Cyberspace.* https://doi.org/10.5772/intechopen.85731

Johnson, D. W., Johnson, R. T., & Smith, K. (2014). Cooperative Learning: Improving University Instruction by basing Practice on Validated Theory. In Davidson, N., Major, C. & Michaelsen, L. (Eds.), Small-Group Learning in Higher Education: Cooperative, Collaborative, Problem-Based and Team-Based Learning. *Journal on Excellence in College Teaching,* 25(4).

Johnston, N. (2011). Curriculum and Curriculum Orientations in Cooperative and Work-Integrated Education: In R. K. Coll, & K. E. Zegwaard (Eds.), *International Handbook for Cooperative and Work-Integrated Education: International Perspectives of Theory, Research and Practice* (2nd ed.). (pp. 305-311).

Johnston, N., McRae, N., & Maclean, C. (2016). The Development of a Comparative Matrix of Forms of WIL and Work-Integrated Education (WIL/WIE) within the province of BC, Canada. In K. E. Zegwaard, M. Ford & N. McRae (Eds.). *Refereed proceedings of the 2nd International Research Symposium on Cooperative and Work-Integrated Education*, (pp. 77-84). University of Waikato.

Johnston-Wilder, S., Goodall, J., & Almehrz, H. (2018). Overcoming Statistical Helplessness and Developing Statistical Resilience in Learners: An Illustrative, Collaborative, Phenomenological Study. *Creative Education,* 9(7).

Jones, J. B., & Fang, Y. (2016). Skill-Biased Technological Change and the Cost of Higher Education. *Journal of Labor Economics, 34*(3), 621-662.

Kahlke, R., & White, J. (2013). Critical Thinking in Health Sciences Education: Considering Three Waves. *Creative Education, 4*(12A).

Kar, S. K., & Biswal, S. K. (2019). Interpretivist Entrepreneurial Research on Indian Millennial: An R/R-QDA Based Approach. *Theoretical Economics Letters, 9*(6).

Karunaratne, K., & Niroshani, P. (2019). Students' Perception on the Effectiveness of Industrial Internship Programme. *Education Quarterly Reviews*, *2*(4), 822-832. https://10.31014/aior.1993.02.04.109

Keating, S. (2006). *Learning in the workplace: A literature review.* University of Victoria.

Kenayathulla, H. B., Ahmad, N. A., & Idris, A. R. (2019). Gaps between Competence and Importance Of Employability Skills: Evidence from Malaysia. *Higher Education Evaluation and Development, 13*(2), 97-112. https://doi.org/10.1108/HEED-08-2019-0039

King, L. A., Hicks, J. A., Krull, J. L., & Del Gaiso, A. K. (2006). Positive Affect and the Experience of Meaning in Life. *Journal of Personality and Social Psychology, 90*(1), 179–196. https://doi.org/10.1037/0022-3514.90.1.179

Kir, K. F., Sarpong, F. A., Yari, Y., Dazagbyilo, K., & Boukari, M. (2021). *Open Journal of Business and Management, 9*(4).

Kjellén, B., & Svensson, L. (2014). *WIL in the Classroom.* WACE 10th International Symposium on Cooperative & Work-Integrated Education.

Krengel, L. (2016). The Financial Impact of Joining the Chain and Improving Hotel Rating: A Case Study in Russia. *Open Journal of Business and Management, 4*(4).

Lange, J. K. (2002). Focus Groups. A Practical Guide for Applied Research (3rd ed.). *Forum Qualitative Sozialforschung Forum: Qualitative Social Research, 3*(4). https://doi.org/10.17169/fqs-3.4.791

Lawson, R., Fallshaw, E., Papadopoulos, T., Taylor, T., & Zanko, M. (2011). *Professional Learning in the Business Curriculum: Engaging Industry, Academics and Students. Asian Social Science*, *7*(4), 61-68.

Lee, Y. H., Barnard, A., & Owen, C. (2011). Initial Evaluation of Rural Programs at the Australian National University: Understanding the Effects of Rural Programs on Intentions for Rural and Remote Medical Practice. *Rural and Remote Health, 11*(2), 1602.

Levett-Jones, T., Lathlean, J., Higgins, I. & McMillan, M. (2009). The Duration of Clinical Placements: A Key Influence on Nursing Students‘ Experience of Belongingness. *Australian Journal of Advanced Nursing, 26*(2), 8-16.

Little, B., & Harvey, L. (2006). *Learning through work placements and beyond.* The Open University.

Liu, Z., Le Calvé, A., Cretton, F., Balet, N. G., Sokhn, M., & Délétroz, N. (2015). Linked Data-Based Framework for Tourism Decision Support System: Case Study of Chinese Tourists In Switzerland. *Journal of Computer and Communications, 3*, 118-126.

Lloyd, N. A., Paull, M., Clerke, T., & Male, S. A. (2019*). Access, quality and wellbeing in engineering work integrated learning placements.* National Centre for Student Equity in Higher Education.

Lovdal, H., & Roberts, H. (1999). Competence Capital. *OECD Symposium on Measuring and Reporting of Intellectual Capital, Amsterdam,* 9-10.

Lucas, P., Fleming, J., & Bhosale, J. (2018). The Utility of Case Study as a Methodology for WIL Research. *International Journal of WIL, 19*(3), 215-222.

Ma, J., Pender, M., & Welch, M. (2016). Education pays 2016: The Benefits of Higher Education for Individuals and Society. *Trends in Higher Education Series.* College Board.

MacDonald, K., Cameron, C., Brimble, M., Freudenberg, B., & English, D. (2014). Realizing the Professional within: The Effect of Work Integrated Learning. *Asia-Pacific Journal of Cooperative Education, 15*(2), 159 – 178.

Mack, N., Woodsong, C., MacQueen, K., Guest, G. & Namey, E. (2005). *Qualitative research methods: A data collector's field guide.* Family Health International.

Mafu, M. (2023). Technology Transfer as a Catalyst for Effective University-Industry Collaboration in Botswana. *African Journal of Science, Technology, Innovation and Development, 15*(5), 1-18.

Maqableh, M., Rajab, L., Quteshat, W., Masa'deh, R. M. T., Khatib, T., & Karajeh, H. (2015). The Impact of Social Media Networks Websites Usage on Students' Academic Performance. *Communications and Network, 7*(4).

Martin, A., & Hughes, H. (2009). *How to make the most of Work-Integrated Learning: a guide for students, lecturers and supervisors.* University Press.

Martin, A., & Leberman, S. (2005). Keeping up with the play: Practicum, Partnership and Practice. *Asia Pacific Journal of Cooperative Education, 6*(2), 17-25.

McLennan, B., & Keating, S. (2008). Work-Integrated Learning (WIL) in Australian universities: the challenges of mainstreaming WIL. *National Symposium.* https://www.scirp.org/reference/referencespapers?referenceid=3816260

Menezes, A. & Pinto, P. (2016). Role of Industry in Developing the Education System. *International Journal of Scientific Research and Modern Education,* 2455-5630.

Mensah, A. M. & Gordon, C. (2020). Strategic Partnerships Between Universities and Non-Academic Institutions for Sustainability and Innovation: Insights from the University of Ghana. *Sustainability Challenges in Sub-Saharan Africa,* (245-278).

Messum, D., Wilkes, L., Peters, C., & Jackson, D. (2017). Senior Managers´ and Recent Graduates´ Perceptions of Employability Skills for Health Services Management. *Asia-Pacific Journal of Cooperative Education, Special Issue, 18*(2), 115-128.

Miles, M. B., Huberman, A. M., & Saldaäna, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Sage Publications.

Miller, W. (2015). Understanding Grounded Theory. *American Society for Clinical Laboratory Science*, *28*(3), 197-200. https://doi.org/10.29074/ascls.28.3.197

Ministry of Environment, Science & Technology (2010). *National Science, Technology, And Innovation Policy.* Ministry of Education.

Ministry of Environment, Science, Technology & Innovation (2017). *National Science, Technology and Innovation Policy (2017-2020)*. Ministry of Education.

Ministry of Trade and Industry. (2010). *The Ghana Industrial Policy*.

Mishra, L. (2016). Focus Group Discussion in Qualitative Research. *International Journal of Educational Technology*, *6*, 1. https://10.5958/2249-5223.2016.00001.2

Moore, K., Ferns, S., & Peach, D. (2015). The Australian Collaborative Education Network Student Scholarship for WIL. *Asia-Pacific Journal of Cooperative Education*, *16*(4), 241-254.

Moore, T., & Morton, J. (2017). The Myth of Job Readiness? Written Communication, Employability, and the _Skills Gap' in Higher Education. *Studies in Higher Education, 42*(3), 591–609.

Moser, A., & Korstjens, I. (2018). Practical Guidance to Qualitative Research: Sampling, Data Collection and Analysis. *European Journal of General Practice, 24*, 9-18. https://doi.org/10.1080/13814788.2017.1375091

Mwangi, J., & Gitonga, L. (2014). Perceptions and Use of Herbal Remedies among Patients with Diabetes Mellitus in Murang'a North District, Kenya. *Open Journal of Clinical Diagnostics, 4*(3).

Narula, R., & Dunning, J. H. (1998). Explaining International R&D Alliances and the Role of Governments. *International Business Review, 7*, 377-397.

National Council for Tertiary Education. (2012). *Report of the fact-finding committee on the relationship between NCTE and other regulatory bodies (NAB and NABPTEX).* National Council for Tertiary Education.

Neville, C. (2010). *The complete guide to referencing and avoiding plagiarism* (2nd ed.). Open University Press Educational and Professional Book Publishers.

Nevison, C., Drewery, D., Pretti J., & Cormier, L. (2016). Using Learning Environments to Create Meaningful Work for Co-Op Students. *Higher Education Research & Development, 36*(4), 807-822.

Nixon, S. (2013). Using Metaphors to Aid Student Meta-Learning: When You're Learning at your Best Like What? *Creative Education, 4*(7B).

Ohi, S. (2014). A Day in the Life of an Early Childhood Teacher: Identifying the Confronting Issues and Challenges that Arise. *Creative Education, 5*(11).

Organization for Economic Co-operation and Development (OECD). (2022). *Monitoring and evaluation framework for the OECD due diligence guidance for responsible supply chains of minerals from conflict-affected and high-risk areas.* OECD

Organization for Economic Co-operation and Development (OECD). (2017). *Education at a glance 2017: OECD indicators.* https://doi.org/10.1787/eag-2017-en

Orrell, J. (2011). *Good practice report, WIL.* Australia Learning and Teaching Council.

Osmani, A. G., Islam, R., & Rahman, H. (2021). Incidence and Determinants of Educated Youth Unemployment in Rajshahi City of Bangladesh. *Economic Insights - Trends & Challenges*, *X*(LXXIII)(1), 73–82.

Owusu-Ansah, W., & Poku, K. (2012). Entrepreneurship Education: A Panacea to Graduate Unemployment in Ghana? *International Journal of Humanities and Social Sciences, 2*(15), 211-220.

Patrick, C., Peach, D., Pocknee, C., Webb, F., Fletcher, M., & Pretto, G. (2008). *The WIL report: A national scoping study – Australian Learning and Teaching Council (ALTC) final report.* Queensland University of Technology.

Patterson, V. (1999). The Employers Guide: Successful Intern/Co-op Programs. *Journal of Career Planning and Employment, 57*(2), 30-34.

Pervin, N., & Mokhtar, M. (2022). The Interpretivist Research Paradigm: A Subjective Notion of a Social Context. *International Journal of Academic Research in Progressive Education and Development, 11*(2), 419–428.

Peter-Brown, M. (2022). COVID-19 and Socio-Economic Inequalities among Workers in Ghana. *Open Journal of Social Sciences, 10*(5).

Peters, J., Sattler, P., & Kelland, J. (2014). *WIL in Ontario's postsecondary sector: The pathways of recent college and university graduates.* Higher Education

Quality Council of Ontario. https://heqco.ca/pub/work-integrated-learning-inontarios-postsecondary-sector-the-pathways-of-recent-college-and-university-graduates/

Pilgrims, C. (2012). Industry and University Perspectives of Work-Integrated Learning Programs in ICT Degrees. *Proceedings of the 23rd Australasian Conference on Information Systems,* (1-9). ACIS.

Pillay J. (2014). Ethical Considerations in Educational Research involving Children: Implications for Educational Researchers in South Africa. *South African Journal of Childhood Education*, *4*(2), 18.

Price Waterhouse Coopers (PwC). (2016). *Australia Higher Education workforce of the future.* Australian Higher Education Industrial Association.

Quayson, J. A. (2007). *The governance of schools (Better schools series*). Commonwealth Secretariat Press.

Quayson, J., Defor, J., & Quarcoopome, N. (2022). Industry Perspectives. *AGI's Quarterly Magazine, 5*(2).

Reddan, G., & Rauchle, M. M. (2017). Combining Quality WIL and Career Development Learning through the use of the SOAR Model to Enhance Employability. *Asia-Pacific Journal of Cooperative Education, 18*, 129-139.

Rizvi, S., Teckchandany, S., & Ahuja, G. (2013). A Study of Competencies and Skill Sets Needed by Potential Recruiters in the Financial Sector for Management Graduates. *Management Dynamics, 13*(1), 54–69. https://doi.org/10.57198/2583-4932.1118

Roeske, J. (2003). Skills training strategies to combat worst forms of child labour in the urban in formal economy: Ghana country study. *International Programme on the Elimination of Child Labour (IPEC).*

Römgens, I., Scoupe, R., & Beausaert, S. (2019). Unraveling the Concept of Employability, Bringing Together Research on Employability in Higher Education and the Workplace. *Studies in Higher Education, 45*(12), 2588–2603. https://doi.org/10.1080/03075079.2019.1623770

Rowe, A., Winchester-Seeto, T., & Mackaway, J. (2012). That's not really WIL! – Building a Typology of WIL and Related Activities. *Australian Collaborative Education Network (ACEN)*, 246-252.

Ryan, B. G. (2018). Introduction to Positivism, Interpretivism and Critical Theory. *Nurse Researcher, 25*(4), 41–49. https://doi.org/10.7748/nr.2018.e1466

Sachs, J., Rowe, A., & Wilson, M. (2017). *Good practice report: Work-Integrated Learning.* Macquarie University.

Sahoo, R. K. (2021). Observation, Interview and Diaries as means of Obtaining Data from Children. *Researching Children and Childhoods in India,* 32-44. School of Open Learning.

Sattler, P., & Peters, J. (2012). *WIL and postsecondary graduates: The perspective of Ontario employers.* Higher Education Quality Council of Ontario.

Schoch, K. (2020). Case Study Research. *Research Design and Methods: An Applied Guide for the Scholar-Practitioner*, 245-258. Sage Publications.

Schwab, K. (2014). *The global competitiveness report 2014–2015.* World Economic Forum.

Selvadurai, S., Choy, E. A., & Maros, M. (2012). Generic Skills of Prospective Graduates from the Employers‘ Perspective. *Asian Social Sciences, 8*(12), 295-303.

Shirley, M. (2008). *Institutions and Development*. https://10.1007/978-3-540-69305-5_25

Sin, C., & Amaral, A. (2017). Academics' and Employers' Perceptions about Responsibilities for Employability and their Initiatives towards its Development. *Higher Education, 73*(1), 97-111.

Skorikov, V. B., & Vondracek, F. W. (2011). Occupational Identity. In Schwartz, S. J., Luyckx, K. & Vignoles, V. L. (Eds), *Handbook of Identity Theory and Research* (693-714).

Small, L., Shacklock, K., & Marchant, T. (2018). Employability: A Contemporary Review for Higher Education Stakeholders. *Journal of Vocational Education and Training, 70*(1), 148-166.

Smith, C. (2012). Evaluating the Quality of WIL Curriculum: A Comprehensive Framework. *Higher Education Research and Development, 31*(2), 247– 262.

Smith, C., Ferns, S., & Russell, L. (2014). *The impact of WIL on student work-readiness.* Office for learning and teaching.

Souto-Otero, M. (2007). Further Education Colleges‘ Specialisation: International Experiences and Lessons for the UK. *Research in Post-compulsory Education, 12*(2), 193–207.

Souto-Otero, M. (2010). Education, meritocracy and redistribution. *Journal of Education Policy*, *25*(3), 397-413.

Staniforth, M. (2009). Work-Integrated Learning in Maritime Archaeology: An Australian approach. *International Journal of Learning, 16*(8), 519-528.

Stewart, A., & Owens, R. (2013). *The nature, prevalence and regulation of unpaid work experience, internships and trial periods in Australia: Experience or exploitation?*https://www.fairwork.gov.au/ArticleDocuments/763/UWcompletereport.pdf.aspx

Stirling, A., Kerr, G., Banwell, J., MacPherson, E., & Heron, A. (2016). A practical guide for WIL: Effective practices to enhance the educational quality of the structured work experience offered through Colleges and Universities. *Higher Education Quality Control of Ontario.* Queen's Printer.

Succi, C., & Canovi, M. (2019). Soft Skills to Enhance Graduate Employability: Comparing Students and Employers' Perceptions. *Studies in Higher Education, 45*(9), 1834–1847. https://doi.org/10.1080/03075079.2019.1585420

Suleman, F. (2018). The Employability Skills of Higher Education Graduates: Insights into Conceptual Frameworks and Methodological Options. *Higher Education*, *76*, 263-278. https://doi.org/10.1007/s10734-017-0207-0

Taabazuing, J. (2010). *Report on tracer study of agricultural graduates in Ghana.* Accra, West and Central African Council for Agricultural Research and Development.

Teegen, H. (2000). Examining Strategic and Economic Development Implications of Globalizing through Franchising. *International Business Review, 9*, 497-521. https://10.1016/S0969-5931(00)00015-9

Tetteh, H. S. (2011). *Ghana Industrial Policy.* Government of Ghana.

Tomlinson, M. (2012). Graduate Employability: A Review of Conceptual and Empirical Themes. *Higher Education Policy*, *25*(4), 407-421.

Trede, F., Macklin, R., & Bridges, D. (2012). Professional Identity Development: A Review of the Higher Education Literature. *Studies in Higher Education, 37*(3), 365-384. https://doi.org/10.1080/03075079.2010.521237

U.S. Department of Health and Human Services (2018). *Physical activity guidelines for Americans* (2nd ed).

United Nations, Department of Economic and Social Affairs, Population Division (2019). *World urbanization prospects: The 2018 revision.*

Universities Australia (2015). *National strategy on WIL in university education.* Universities Australia.

Universities Australia. (2019). *WIL in universities: Final report.* Universities Australia: Deakin, ACT.

Usher, A. (2012). Measuring WIL: The Development of the Meta-Competency Test. *Journal of Cooperative Education & Internships, 46*(1), 5-15.

Vasileious, K., Barnet, J., Thorpe, S., & Young, T. (2018). Characterizing and Justifying Sample Size Sufficiency in Interview-Based Studies: Systematic Analysis of Qualitative Health Research Over A 15-Year Period. *Springer Nature, 2*.

Victoria University. (2007). *Learning in the workplace and community: A short guide.*

Wellings, P., Black, R., Craven, G., Freshwater, D., & Harding, S. (2019). *Performance-based funding for the Commonwealth Grant Scheme.* Australian Ministry of Education.

Wellington, J., & Szczerbinski, M. (2007). *Research Methods for the Social Sciences.* Continuum.

Wheelahan, L, Moodie, G., & Buchanan, J. (2012). *Revitalising the vocational in flows of learning and labour.* NCVER.

Whelan, M. B. (2017). Road Testing Graduate Attributes and Course Learning Outcomes of an Environmental Science Degree Via a WIL Placement. *Asia-Pacific Journal of Cooperative Education, 18*(1), 1–13.

Whelan, M. B. (2017a). Academic WIL: Reengaging Teaching-Focused Academics with Industry. *Journal of Teaching and Learning for Graduate Employability, 8*(1), 172–187.

Wilson, A. (2015). A Guide to Phenomenological Research. *Nursing standard (Royal College of Nursing Great Britain)*, *29*, 38-43. https://10.7748/ns.29.34.38.e8821

Winberg, C., Garraway, J., Engel-Hills, P., & Jacobs, C. (2011). WIL: Good Practice Guide. *HE Monitor, 12*.

Winchester-Seeto, T., & Rowe, A. (2017). *Quality and standards for Work-Integrated Learning.* Australian Council of Deans of Science Teaching and Learning Centre.

Winful, E. C., Snowden, M., Halsall, J. P., Quaye, J. N. A., Hyams-Ssekesi, D., Opuni, F. F., Afriyie, E. O., Ocloo, E. C., & Opoku-Asante, K. (2022). Graduate Employability in Ghana: Embedding Social Enterprise Skills within the Higher Education Framework. *Emerald Open Research*, *4*(38). https://doi.org/10.35241/emeraldopenres.14791.1

Wong, P.-K., Ho, Y.-P., & Singh, A. (2007). Towards an –Entrepreneurial University" Model to Support Knowledge-Based Economic Development: The Case of the National University of Singapore. *World Development, 35*(6). https://doi.org/10.1016/j.worlddev.2006.05.007

Wood, Y. I., Zegwaard, K. E., & Fox-Turnbull, W. (2020). Conventional, Remote, Virtual and Simulated WIL: A Meta-Analysis of Existing Practice. *International Journal of WIL, 21*(4), 331–354.

World Bank. (2008). *World development report: Agriculture for development.* http://go.worldbank.org/2DNNMCBGI0

Yayeh, F. A. (2021). Focus Group Discussion as a Data Collection Tool in Economics. *Daagu International Journal of Basic & Applied Research-DIJBAR, 3*(1), 52-61.

Yildiz, P. (2014). The Status of 3rd Cycle programs in fine art faculties. *Social and Behavioral Sciences, 122*, 292-305. https://doi.org/10.1016/j.sbspro.2014.01.1344

Yin, R. K. (2017). *Case study research: Design and methods* (6thed.). Sage Publications.

Yorke, M. (2006). *Employability in Higher Education: What it is – what it is not.* Higher Education Academy.

Yorke, M. (2010). Employability: Aligning the Message, the Medium and Academic Values. *Journal of Teaching & Learning for Graduate Employability,* 1 (1), 2-12.

Zegwaard, F. (2018). Methodologies, Methods and Ethical Considerations WIL Research. *International Journal of WIL, Special Issue, 19*(3), 205-213.

Zegwaard, K. E., & Pretti, T. J. (2023). *The Routledge International Handbook of WIL* (3rd ed.). Routledge. https://doi.org/10.4324/9781003156420

Zegwaard, K. E., Campbell, M., & Pretti, T. J. (2017). Professional Identities and Ethics: The role of WIL in Agentic Professionals. *WIL I the 21st Century: Global Perspectives on the Future International Perspectives on Education and Society*, 145-160. Emerald Publishing Limited.

Žukauskas, P., Vveinhardt, J., & Andriukaitienė, R. (2018). Philosophy and Paradigm of Scientific Research. *Management Culture and Corporate Social Responsibility*, *121*. https://doi.org/10.5772/intechopen.70628

APPENDICES

APPENDIX I

CONSENT PROCESS FOR ALL SEMI-STRUCTURED INTERVIEWS

Verbal consents were sought from interviewees in advance from all those selected to participate. Below is a summary of the information in the consent document that was used to ensure that participants understand the information in the consent document.

- Thank you for agreeing to participate in this interview. I am very interested to hear your valuable opinion on the topic State Accountability and Educational Institutional Readiness for Work-Integrated Learning (WIL): The Case of University for Development Studies (UDS).
- The purpose of this study is to explore how university courses in University for Development Studies (UDS) can be developed to meet industry requirements and to find out how the state can support work-integrated learning with a policy initiative in order to ensure state accountability.
- I would like to record the proceedings for this interview so that I can make sure to capture the thoughts, opinions, and ideas I hear from the group. No names will be attached to the interview, and the recording will be destroyed as soon as they are transcribed.
- You may refuse to answer or withdraw from the discussion at any time.
- I understand how important it is that this information is kept private and confidential. I will ensure confidentiality of the responses you provide for me.
- If you have any questions now or after the discussion is completed, you can always contact me.
- Kindly give me your verbal consent if you agree to participate in this interview.

APPENDIX II

SEMI-STRUCTURED INTERVIEW GUIDE FOR HEADS OF DEPARTMENTS

Introduction

Hi there. I sincerely appreciate you for consenting to take part in this interview and for your assistance with this study. My name is Obaa (name has been anonymized) and I will moderate this interview. The interview is scheduled to go between forty-five minutes and one hour on audio recorder. The goal of the recording is to precisely capture the data you supply, and it will only be used for transcribing. Throughout this interview, you are free to take breaks and use the bathroom as needed. Do you have any inquiries?

A sign-in sheet is given with a few quick demographic questions (age, gender and number of years in the position) for the interviewee to fill.

Primary goal

This is to probe your perspectives, experiences, opinions and feelings about the concept of WIL and its related issues.

Turn on audio recorder

Background information

Invite interviewee to briefly tell me about him/herself. General information about interviewee‘s background, work experience and perspectives on the concept of WIL.

- What is your opinion about WIL?
- What form of WIL is practiced in your school? [Probes: is it minimal engagement and ad hoc arrangements, fully integrated into the curriculum, is it assessed or is it not?] [Probes: is it off-campus internships, industry simulation, industry practitioner delivery, industry mentorship, industry study tours, industry placement, industry competition and industry projects.]

Part 1 [The existing connection between university courses and the requirements of the industry]

1. How would you describe the practices your department employs in order to align your courses to the requirements of industry?
2. How does your department collaborate with industry?
3. How would you agree with the assertion that, there is currently a gap between university courses and the requirements of industry?

Part 2 [The effect of WIL on students' future employment opportunities]

4. In your opinion, how do you think WIL has the potential of increasing graduates' employability? [Probe: how do you think it is necessary for your university to establish occupational or industry networks?]

Part 3 [Ways of developing university courses to meet industry requirements]

5. How is your department ensuring that the constantly evolving skills requirements of industry are being met? [Probe: how do you think your department can improve on the revisions it makes?]
6. How has your department employed methods to integrate WIL into its curriculum?
7. In your opinion, what factors should be considered during re-alignment of universities' curriculum to meet industry requirements?

Part 4 [The use of policy by the state to support this innovation of WIL in order to become accountable]

8. Why would you prescribe for the state a WIL policy for your university? [Probe: What should your prescribed policy cover?]
9. What is your opinion of the assertion that a policy climate is necessary for implementing WIL courses?

Conclusion

10. Do you have any additional comments or anything to say about the study?

Closing remarks

This concludes our interview. Thank you so much for availing yourself and sharing your thoughts and opinions with me.

APPENDIX III

SEMI-STRUCTURED INTERVIEW GUIDE FOR EMPLOYERS

Introduction

Hi there. I sincerely appreciate you for consenting to take part in this interview and for your assistance with this study. My name is Obaa (name has been anonymized) and I will moderate this interview. The interview is scheduled to go between forty-five minutes and one hour on audio recorder. The goal of the recording is to precisely capture the data you supply, and it will only be used for transcribing. Throughout this interview, you are free to take breaks and use the bathroom as needed. Do you have any inquiries?

A sign-in sheet is given with a few quick demographic questions (age, gender and number of years in the position) for the interviewee to fill.

Primary goal

This is to probe your perspectives, experiences, opinions and feelings about the concept of WIL and its related issues.

Turn on audio recorder

Background information

Invite interviewee to briefly tell me about him/herself. General information about interviewee‘s background, work experience and perspectives on the concept of WIL.

Probes

- What is your opinion about WIL?
- What benefits do you think WIL has for industry? [Probe: For instance, how do you think WIL can increase productivity results for industry?]

Part 1 [The existing connection between university courses and the requirements of industry]

1. How does your institution collaborates with universities? If so, what are the details of the collaboration? [Probe: how do you think such a collaboration is necessary?]
2. As an employer, tell me about your experience regarding the skills graduates tend to exhibit. How do the skills match/align with skills industry requires? [Probe: How would you agree with the assertion that there is currently a gap between university courses and the requirements of industry?]

Part 2 [The effect of WIL on students' future employment opportunities]

3. In your experience, what are the differences between graduates who participated in WIL and graduates who did not?
4. As an employer, how does a graduate who has experienced WIL influence your decision of employing the person as compared to someone who has not? [Probe: who between the two would you employ and why?]

Part 3 [Ways of developing university courses to meet industry requirements]

5. How would you agree with the assertion that in order for higher education to remain relevant, it must modify its courses, instructional methods, and approaches to match the changing needs of employers?
6. In your opinion, what strategies does your university employ to develop its courses to meet industry requirements?
7. What additional strategies could your university employ to develop its courses to meet industry requirements?

Part 4 [The use of policy by the state to support this innovation of WIL in order to become accountable]

8. Why would you prescribe for the state a WIL policy for your university? [What should your prescribed policy cover?]
9. What is your opinion of the assertion that a policy climate is necessary for implementing WIL courses?

Conclusion

10. Do you have any additional comments or anything to say about the study?

Closing remarks

This concludes our interview. Thank you so much for availing yourself and sharing your thoughts and opinions with me.

APPENDIX IV

SEMI-STRUCTURED INTERVIEW GUIDE FOR GHANA TERTIARY EDUCATION COMMISSION (GTEC)

Introduction

Hi there. I sincerely appreciate you for consenting to take part in this interview and for your assistance with this study. My name is Obaa (name has been anonymized) and I will moderate this interview. The interview is scheduled to go between forty-five minutes to one hour on audio recorder. The goal of the recording is to precisely capture the data you supply, and it will only be used for transcribing. Throughout this interview, you are free to take breaks and use the bathroom as needed. Do you have any inquiries?

A sign-in sheet is given with a few quick demographic questions (age, gender and number of years in the position) for the interviewee to fill.

Primary goal

This is to probe your perspectives, experiences, opinions and feelings about the concept of WIL and its related issues.

Turn on audio recorder

Background information

Invite interviewee to briefly tell me about him/herself. General information about interviewee‘s background, work experience and perspectives on the concept of WIL.

- What is your opinion about WIL?

Part 1 [The existing connection between university courses and the requirements industry]

1. What is your knowledge on how university courses are developed? How do the processes take into consideration the requirements of industry?
2. In your experience, how does your university collaborate with industry?
3. How would you agree with the assertion that there is currently a gap between university courses and the requirements of industry?

Part 2 [The effect of WIL on students’ future employment opportunities]

4. How would you agree with the assertion that WIL improves students‘ work-readiness? [Probe: In your opinion, how do you think it is necessary for your university to establish occupational or industry networks?

Part 3 [Ways of developing university courses to meet industry requirements]

5. In your opinion, how can your university develop its programmes to meet industry requirements? [Probe: how much authority does the state have over the content and types of learning activities that your university produce?]

Part 4 [The use of policy by the state to support this innovation of WIL in order to become accountable]

6. Why would you prescribe for the state a WIL policy for your university? [What should your prescribed policy cover?]
7. What is your opinion of the assertion that a policy climate is necessary for implementing WIL programmes?
8. How would a WIL policy climate make the state accountable?

Conclusion

9. Do you have any additional comments or anything to say about the study?

Closing remarks

This concludes our interview. Thank you so much for availing yourself and sharing your thoughts and opinions with me.

APPENDIX V

SEMI-STRUCTURED INTERVIEW GUIDE FOR INDUSTRIAL RELATIONS COORDINATOR

Introduction

Hi there. I sincerely appreciate you for consenting to take part in this interview and for your assistance with this study. My name is Obaa (name has been anonymized) and I will moderate this interview. The interview is scheduled to go between forty-five minutes to one hour on audio recorder. The goal of the recording is to precisely capture the data you supply, and it will only be used for transcribing. Throughout this interview, you are free to take breaks and use the bathroom as needed. Do you have any inquiries?

A sign-in sheet is given with a few quick demographic questions (age, gender and number of years in the position) for the interviewee to fill.

Primary goal

This is to probe your perspectives, experiences, opinions and feelings about the concept of WIL and its related issues.

Turn on audio recorder

Background information

Invite interviewee to briefly tell me about him/herself. General information about interviewee‘s background, work experience and perspectives on the concept of WIL.

- What is your opinion about WIL?
- What form of WIL is practiced in your school? [Probes: is it minimal engagement and ad hoc arrangements, fully integrated into the curriculum, is it assessed or is it not?] [Probes: is it off-campus internships or placements, industry simulation, industry practitioner delivery, industry mentorship, industry study tours, industry placement, industry competition and industry projects.]

Part 1 [The existing connection between university courses and the requirements of industry]

1. How would you describe the practices your university employs in order to align your courses to the requirements of industry? [Probe: how does your school collaborate with industry?]
2. How would you agree with the assertion that there is currently a gap between university courses and the requirements of industry?

Part 2 [The effect of WIL on students' future employment opportunities]

3. In your opinion, how do you think WIL has the potential to increase graduates' employability? [Probe: how do you think it is necessary for your university to establish occupational or industry networks?]

Part 3 [Ways of developing university courses to meet industry requirements]

4. How is your school ensuring that the constantly evolving skills requirements of industry are being met? [Probe: how do you think your school can improve on the revisions it makes?]
5. How has your school employed methods to integrate WIL into its curriculum?
6. In your opinion, what factors should be considered during re-alignment of your university's curriculum to meet industry requirements?

Part 4 [The use of policy by the state to support this innovation of WIL in order to become accountable]

7. Why would you prescribe for the state a WIL policy for your university? [What should your prescribed policy cover?]
8. What is your opinion of the assertion that a policy climate is necessary for implementing WIL programmes?

Conclusion

9. Do you have any additional comments or anything to say about the study?

Closing remarks

This concludes our interview. Thank you so much for availing yourself and sharing your thoughts and opinions with me.

APPENDIX VI

SEMI-STRUCTURED INTERVIEW GUIDE FOR TEACHING STAFF

Introduction

Hi there. I sincerely appreciate you for consenting to take part in this interview and for your assistance with this study. My name is Obaa (name has been anonymized) and I will moderate this interview. The interview is scheduled to go between forty-five minutes to one hour on audio recorder. The goal of the recording is to precisely capture the data you supply, and it will only be used for transcribing. Throughout this interview, you are free to take breaks and use the bathroom as needed. Do you have any inquiries?

A sign-in sheet is given with a few quick demographic questions (age, gender and number of years in the position) for the interviewee to fill.

Primary goal

This is to probe your perspectives, experiences, opinions and feelings about the concept of WIL and its related issues.

Turn on audio recorder

Background information

Invite interviewee to briefly tell me about him/herself. General information about interviewee‘s background, work experience and perspectives on the concept of WIL.

- What is your opinion about WIL?
- What form of WIL is practiced in your school? [Probes: is it minimal engagement and ad hoc arrangements, fully integrated into the curriculum, is it assessed or is it not?] [Probes: is it off-campus internships or placements, industry simulation, industry practitioner delivery, industry mentorship, industry study tours, industry placement, industry competition and industry projects.]

Part 1 [The existing connection between university courses and the requirements of industry]

1. As an academic, what requirements of industry are you aware of? How do you incorporate the requirements of industry into your teaching?
2. How does your department collaborate with industry?
3. How would you agree with the assertion that there is currently a gap between university courses and the requirements of industry?

Part 2 [The effect of WIL on students’ future employment opportunities]

4. In your opinion, how do you think WIL has the potential to increase graduates‘ employability? [How do you think it is necessary for universities to establish occupational or industry networks?]

Part 3 [Ways of developing university courses to meet industry requirements]

5. How is your department ensuring that the constantly evolving skills requirements of industry are being met? [Probe: how do you think your department can improve on the revisions it makes?]
6. How has your department employed methods to integrate WIL into its curriculum?
7. In your opinion, what factors should be considered during re-alignment of your university‘s curriculum to meet industry requirements?

Part 4 [The use of policy by the state to support this innovation of WIL in order to become accountable]

8. Why would you prescribe for the state a WIL policy for your university? [What should your prescribed policy cover?]
9. What is your opinion of the assertion that a policy climate is necessary for implementing WIL programmes?

Conclusion

10. Do you have any additional comments or anything to say about the study?

Closing remarks

This concludes our interview. Thank you so much for availing yourself and sharing your thoughts and opinions with me.

APPENDIX VII

CONSENT PROCESS FOR FOCUS GROUP DISCUSSIONS

Verbal consents were sought from focus group participants in advance from all those selected to participate. Below is a summary of the information in the consent document that was used to ensure that participants understand the information in the consent document.

- Thank you for agreeing to participate in this focus group discussion. I am very interested to hear your valuable opinion on the topic State Accountability and Educational Institutional Readiness for Work-Integrated Learning (WIL): The Case of University for Development Studies (UDS).
- The purpose of this study is to explore how university courses in University for Development Studies (UDS) can be developed to meet industry requirements and to find out how the state can support work-integrated learning with a policy initiative in order to ensure state accountability.
- I would like to record the proceedings for this focus group so that we can make sure to capture the thoughts, opinions, and ideas I hear from the group. No names will be attached to the focus groups, and the recording will be destroyed as soon as they are transcribed.
- You may refuse to answer or withdraw from the discussion at any time.
- I understand how important it is that this information is kept private and confidential. I ask participants to respect each other‘s confidentiality.
- If you have any questions now or after the discussion is completed, you can always contact me.
- Kindly give me your verbal consent if you agree to participate in this focus group discussion.

APPENDIX VIII

FOCUS GROUP INTERVIEW SCHEDULE FOR FINAL YEAR STUDENTS

Introduction

Hello, you are all welcome. I sincerely appreciate you for consenting to take part in this focus group and for your assistance with this study. My name is Obaa (name has been anonymized) and I will facilitate this focus group. The focus group is scheduled to go between one hour and one hour thirty minutes on audio recorder. The goal of the recording is to precisely capture the data you supply, and it will only be used for transcribing. Throughout this focus group discussion, you are free to take breaks and use the bathroom as needed. Do you have any inquiries?

A sign-in sheet is given with a few quick demographic questions (age, gender and number of years in the position) for participants to fill.

Primary goal

This is to probe your perspectives, experiences, opinions and feelings about the concept of WIL and its related issues.

Ground rules

The researcher asks the group to suggest some ground rules. After they brainstormed, the researcher will make sure the following are on the list.

- Everyone should participate.
- Information provided in the focus group must be kept confidential.
- Stay with the group and please do not have side conversations.
- Turn off cell phones if possible

Turn on phone recorder

Probes

- What is your opinion about WIL?
- What form of WIL is practiced in your school? [Probes: is it minimal engagement and ad hoc arrangements, fully integrated into the curriculum, is it assessed or is it not?] [Probes: is it off-campus internships or placements, industry simulation, industry practitioner delivery, industry mentorship, industry study tours, industry placement, industry competition and industry projects.]

Part 1 [The existing connection between university courses and the requirements of industry]

1. How would you describe the nature of the courses you took in this university? [Probe: were the courses theory-based or theory related to practice?]
2. How did your department arrange with industry for you to put into practice what you learnt in the classrooms?
3. How would you agree with the assertion that there is currently a gap between university courses and the requirements of industry?

Part 2 [The effect of WIL on students' future employment opportunities]

4. In your opinion, how do you think WIL has the potential to provide you with knowledge about an occupation or trade outside what is taught at your school and increase your employability? [Probe: during your internship, how did you feel about the link between the courses you have studied and the requirements of industry?]

Part 3 [Ways of developing university courses to meet industry requirements]

5. In your opinion, what can your university do to ensure their programmes meet industry's requirements?

Part 4 [The use of policy by the state to support this innovation of WIL in order to become accountable]

6. Why would you prescribe for the state a WIL policy for your university? [What should your prescribed policy cover?]
7. What is your opinion of the assertion that a policy climate is necessary for implementing WIL programmes?

Conclusion

8. Do you have any additional comments or anything to say about the study?

Closing remarks

This concludes our interview. Thank you so much for coming and sharing your thoughts and opinions with me.

APPENDIX IX

FOCUS GROUP INTERVIEW SCHEDULE FOR GRADUATES

Introduction

Hello, you are all welcome. I sincerely appreciate you for consenting to take part in this focus group and for your assistance with this study. My name is Obaa (name has been anonymized) and I will facilitate this focus group. The focus group is scheduled to go between one hour to one hour thirty minutes on audio recorder. The goal of the recording is to precisely capture the data you supply, and it will only be used for transcribing. Throughout this focus group discussion, you are free to take breaks and use the bathroom as needed. Do you have any inquiries?

A sign-in sheet is given with a few quick demographic questions (age, gender and number of years in the position) for participants to fill.

Primary goal

This is to probe your perspectives, experiences, opinions and feelings about the concept of WIL and its related issues.

Ground rules

The researcher asks the group to suggest some ground rules. After they brainstormed, the researcher will make sure the following are on the list.

- Everyone should participate.
- Information provided in the focus group must be kept confidential.
- Stay with the group and please do not have side conversations.
- Turn off cell phones if possible

Turn on phone recorder

Probes

- What is your opinion about WIL?
- What form of WIL is practiced in your school? [Probes: is it minimal engagement and ad hoc arrangements, fully integrated into the curriculum, is it assessed or is it not?] [Probes: is it off-campus internships or placements, industry simulation, industry practitioner delivery, industry mentorship, industry study tours, industry placement, industry competition and industry projects.]

Part 1: The existing connection between university courses and the requirements of the industry

1. How would you describe the nature of the courses you studied during your first degree? [Probe: were the courses theory-based or theory related to practice?]

2. How did your department arrange with industry for you to put into practice what you learnt in the classrooms?
3. In your opinion, how do you think your school prepared you for the requirements of the workplace when you went outside campus for your industrial attachment or your current full employment? [Probe: How would you agree with the assertion that there is currently a gap between your university and the requirements of industry?]

Part 2: The effect of WIL on students' future employment opportunities

4. In your experience how do you think WIL has potentially influenced your employability?
5. How do you think it is necessary for your university to establish occupational or industry networks?
6. How did WIL help you in gaining employment? [Probe: how did WIL make you work-ready?]

Part 3: Ways of developing university courses to meet industry requirements

7. How has your experience at your workplace shown you what your institution could have done to make you more work ready?

Part 4: The use of policy by the state to support this innovation of WIL in order to become accountable

8. Why would you prescribe for the state a WIL policy for your university? [Probe: what should your prescribed policy cover?]
9. What is your opinion of the assertion that a policy climate is necessary for implementing WIL courses?]

Conclusion

10. Do you have any additional comments or anything to say about the study?

Closing remarks

This concludes our interview. Thank you so much for coming and sharing your thoughts and opinions with me.

APPENDIX X

DOCUMENTARY EVIDENCE CHECKLIST

1. Write or type the title of the document.
2. What kind of document is this? (photo, diary, official speech, a letter, an ad, a receipt, a government document, a diary, or journal entry, policy document, etc) [Probe: was it published, or unpublished?]
3. Who wrote this document? From this document, what can we tell about the perspective of the author(s)? [Probe: Does the document suggest that the author(s) point of view was widely shared, or was it controversial and confined to a few people?]
4. When was the document written? How does the document reflect the time when it was written or created?
5. Why was this document created? What is its purpose?
6. Who is the intended audience? How did the audience shape what the author(s) says? How would the intended audience be likely to read the document?
7. How does this document relate to the following themes:
   - The existing connection between university courses and the requirements of the industry.
   - The effect of WIL on students‘ future employment opportunities.
   - Ways of developing university courses to meet industry requirements.
   - The use of policy by the state to support this innovation of WIL in order to become accountable.
8. After reading it, what do I still wish I knew?

APPENDIX XI

APPLICATION FOR ACCESS FOR DATA COLLECTION AT UNIVERSITY FOR DEVELOPMENT STUDIES

Sabina Asieduwaa Febiri
C/O Regentropfen College of Applied Sciences
Private Mail Bag,
Bolgatanga – Upper East Region.

The Dean
School of Engineering
University for Development Studies
P. O. Box TL 1350
Tamale, Ghana.

Dear Dean,

APPLICATION FOR ACCESS FOR DATA COLLECTION

My name is Sabina Asieduwaa Febiri, a student of University of Education, Winneba currently pursuing a Master of Philosophy Administration and Management Programme at the Department of Educational Administration and Management.

I am working on a qualitative study titled: **State Accountability and Educational Institutional Readiness for Work-Integrated Learning (WIL): The Case of University for Development Studies (UDS).** The purpose of the study is to explore how university courses in University for Development Studies (UDS) can be developed to meet industry requirements and to find out how the state can support work-integrated learning with a policy initiative in order to ensure state accountability.

I respectfully write for your approval as dean of School of Engineering, University for Development Studies (U.D.S.) to interview the heads of the department of Agricultural Engineering and, department of Mechanical and Industrial Engineering. I would also want to interview one academic staff from each of the departments and students (both final years and graduates) and a staff who is in charge of linking

students to industries for their attachments in the departments. I will also need documentary evidence of activities that the departments and/or the University have embarked to ensure the incorporation of WIL in the curriculum.

Kindly find attached a letter of introduction from my department. I look forward to your favorable response.

Thank you.

Yours faithfully,

Sabina Asieduwaa Febiri
Phone numbers: 0550695929\0201519519
Email Address: febirisabina23@gmail.com

APPENDIX XII

APPLICATION FOR ACCESS FOR DATA COLLECTION AT GHANA TERTIARY EDUCATION COMMISSION

Sabina Asieduwaa Febiri
C/O Regentropfen College of Applied Sciences
Private Mail Bag,
Bolgatanga – Upper East Region.
October 20, 2023.

The Director General
Ghana Tertiary Education Commission
P. O. Box MB 28
Accra - Ghana

Dear Director,

APPLICATION FOR ACCESS FOR DATA COLLECTION

My name is Sabina Asieduwaa Febiri, a student of University of Education, Winneba currently pursuing a Master of Philosophy Administration and Management Programme at the Department of Educational Administration and Management.

I am working on a qualitative study titled: **State Accountability and Educational Institutional Readiness for Work-Integrated Learning (WIL): The Case of University for Development Studies (UDS).** The purpose of the study is to explore how university courses in University for Development Studies (UDS) can be developed to meet industry requirements and to find out how the state can support work-integrated learning with a policy initiative in order to ensure state accountability.

I respectfully write for your approval to interview staff from your noble commission who can offer me information on the accreditation and quality assurance processes the government has employed to ensure that universities produce work-ready students. I would also need documents such as copies of policies that contain government‘s processes of ensuring work-ready students are produced by universities.

Kindly find attached a letter of introduction from my department. I look forward to your favorable response.

Thank you.

Yours faithfully,

Sabina Asieduwaa Febiri

Phone numbers: 0550695929\0201519519

Email Address: febirisabina23@gmail.com

APPENDIX XIII

APPLICATION FOR ACCESS FOR DATA COLLECTION AT GHANA TERTIARY EDUCATION COMMISSION

Sabina Asieduwaa Febiri

C/O Regentropfen College of Applied Sciences

Private Mail Bag,

Bolgatanga – Upper East Region.

November 27, 2023.

Ghana National Petroleum Corporation

PMB – Petroleum House

Tema - Ghana

Dear Sir,

APPLICATION FOR ACCESS FOR DATA COLLECTION

My name is Sabina Asieduwaa Febiri, a student of University of Education, Winneba currently pursuing a Master of Philosophy Administration and Management Programme at the Department of Educational Administration and Management.

I am working on a qualitative study titled: **State Accountability and Educational Institutional Readiness for Work-Integrated Learning (WIL): The Case of University for Development Studies (UDS).** The purpose of the study is to explore how university courses in University for Development Studies (UDS) can be developed to meet industry requirements and to find out how the state can support work-integrated learning with a policy initiative in order to ensure state accountability.

I respectfully write for your approval to interview a staff from your noble corporation who has supervised students from Ghanaian universities during their industrial attachments. I would be glad if you could also provide me with copies of documents that show the relationship your organization has with Ghanaian universities.

Kindly find attached a letter of introduction from my department. I look forward to your favorable response.

Thank you.

Yours faithfully,

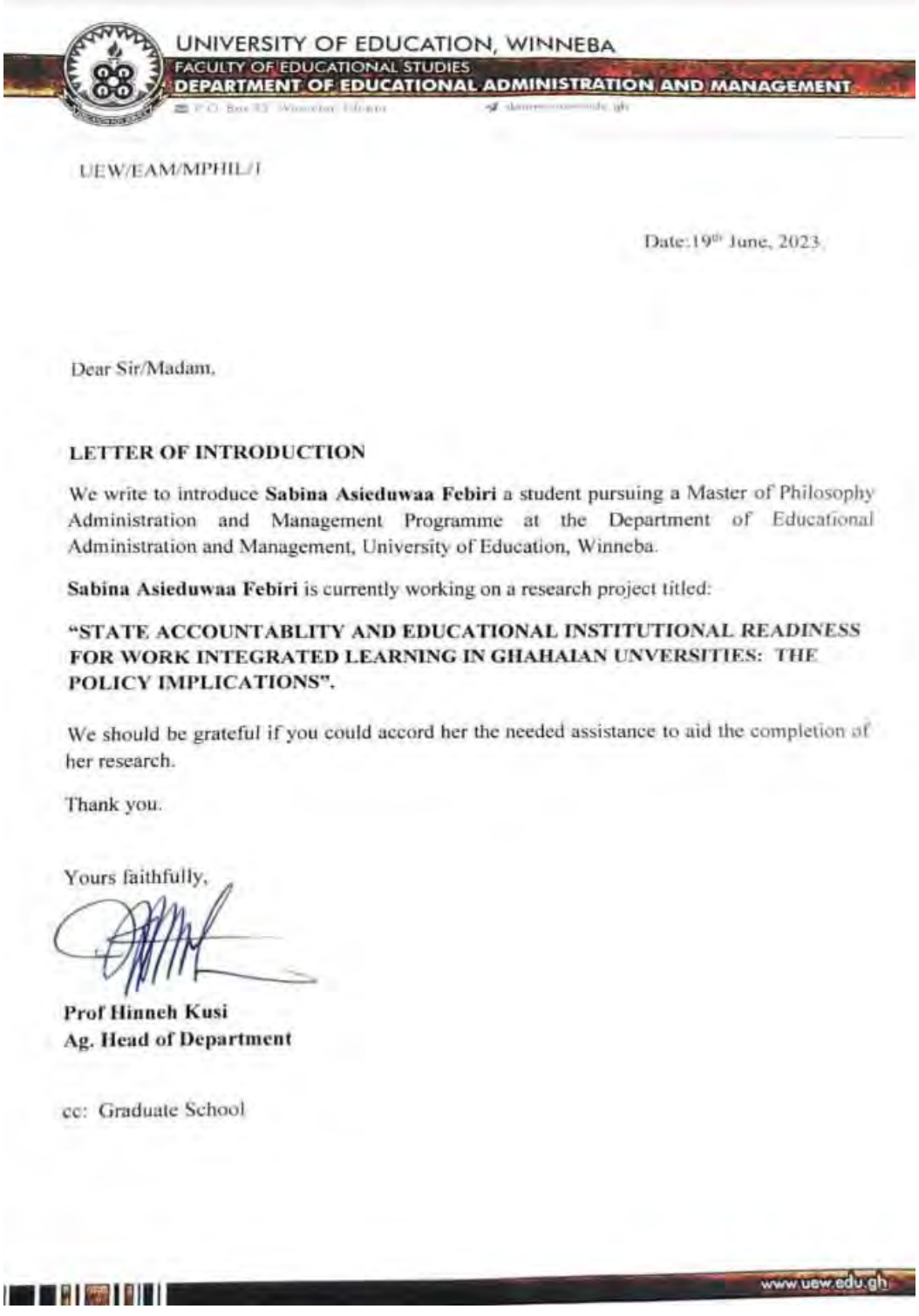
Sabina Asieduwaa Febiri

Phone numbers: 0550695929\0201519519

Email Address: febirisabina23@gmail.com

APPENDIX XIV

INTRODUCTORY LETTER



UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF EDUCATIONAL STUDIES
DEPARTMENT OF EDUCATIONAL ADMINISTRATION AND MANAGEMENT

UEW/EAM/MPHIL/1

Date:19th June, 2023

Dear Sir/Madam,

LETTER OF INTRODUCTION

We write to introduce **Sabina Asieduwaa Febiri** a student pursuing a Master of Philosophy Administration and Management Programme at the Department of Educational Administration and Management, University of Education, Winneba.

Sabina Asieduwaa Febiri is currently working on a research project titled:

"STATE ACCOUNTABLITY AND EDUCATIONAL INSTITUTIONAL READINESS FOR WORK INTEGRATED LEARNING IN GHAHAIAN UNVERSITIES: THE POLICY IMPLICATIONS".

We should be grateful if you could accord her the needed assistance to aid the completion of her research.

Thank you.

Yours faithfully,

Prof Hinneh Kusi
Ag. Head of Department

cc: Graduate School

www.uew.edu.gh