

***An Investigation into the Human Resource
Capacity needs to facilitate learner support of
Work Integrated Learning at a University of
Technology. A Case Study of the Durban
University of Technology***

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2017

An Investigation into the Human Resource Capacity needs to facilitate learner support of Work Integrated Learning at a University of Technology. A Case Study of the Durban University of Technology.

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Submitted in fulfilment of the Doctor of Management Sciences Degree in Human Resource Management, Faculty of Management Sciences at the Durban University of Technology, January 2017.

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____ day of _____ 2017

DECLARATION

I declare that this thesis is my own work that was conducted at the Durban University of Technology, ML Sultan Campus, Department of Human Resource Management. It has not been submitted for any degree or examination at any other institution.

Signed: _____

JOHANNES THEMBA MSUKWINI

___ day of _____ 2017

DEDICATION

I dedicate this work to everyone who is involved in the Co-operative Education fraternity. Part of this dedication goes to my family, my deceased parents, Mr Losi 'Danayi' Msukwini (my Father) and Mrs Thoko 'NaNdaba' Msukwini (my Mother) who started our family under poor beginnings and raise us up in a very difficult situation.

Furthermore, Mrs Malindi Msukwini (my Wife), Thembinkosi Jr and Odwa Msukwini (my Sons), Mr Smanga Msukwini (my Brother), Pastor Peter Ndlovu (my Uncle), Pastor Zodwa Komane (my Aunt), Inspector Thuli Mabota (my Cousin), Mr Vusi Ndlovu (my Uncle), Ms Shireen Singh (my Colleague and Friend) as well as Mr Shakeel Ori (my Director and Mentor) under the auspices of my colleagues from Co-operative Education Unit at Durban University of Technology, who supported me through the ordeal and aftermath of the stroke.

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LIST OF ACRONYMS

CELT: Centre for Excellence in Learning and Teaching

CHE: Council on Higher Education

Co-op Practitioners: Co-operative Education Practitioners

CPD: Continuing Promotional Development

CQPA: Centre of Quality and Promotions Authority

DHET: Department of Higher Education and Training

DUT: Durban University of Technology

FET: Further Education and Training

HEIs: Higher Education Institutions

HEQC: Higher Education Quality Committee

HEQF: Higher Education Qualifications Framework

HEQSF: Higher Education Qualifications Sub-Framework

NQF: National Qualifications Framework

JIPSA: Joint Initiative on Skills Acquisition

NSA: National Skills Accord

NSDS III: National Skills Development Strategy III

R & D: Research and Development

SASCE: Southern African Society for Co-operative Education

SETA: Sector Education and Training Authority

SIWES: Student Industrial Work Experience Scheme

SDA: Skills Development Act

UoT: University of Technology

USA: United State of America

WACE: World Association for Co-operative Education

WIL: Work Integrated Learning

WIL Co-ordinators: Work Integrated Learning Co-ordinators

ABSTRACT

There is a concern that students are inadequately prepared before being placed in industry to do Work Integrated Learning (WIL). To add on to this, the Co-operative Education Practitioners as well as the external partners or employers are not sufficiently supported to drive this challenging work. This may have an adverse impact on the students as they would drop out or perform badly. Students are from different backgrounds, some of them are from rural areas where there is a scarcity of work opportunities. The opportunity of getting a placement in industry is an unusual experience to them.

This research implements a Single Case Study (Durban University of Technology case study), a mixed method design is followed combining both qualitative and quantitative methods. One of the main reasons for using a single case study in this investigation is that the DUT practices of Co-operative Education and Work Integrated Learning are not unique. It is representative of other Universities of Technology in South Africa. The first stage involves collecting data from students that are undertaking WIL. The second stage entailed targeting the graduates that were enrolled for programmes that incorporated WIL. The third and fourth stages involved the Co-operative Education Practitioners or the Co-ordinators of WIL at DUT and employers or supervisors of WIL students in the workplace respectively. Furthermore, this investigation will focus on stratified random sampling.

The aim of the pilot study was done in order to test the questionnaires with regards to the relevance and clarity of questions. The objectives are to investigate the role, responsibilities and qualities of university and industry staff for facilitating support for learners. This study revealed that a large percentage of employers suggested that lack of learner support can contribute to student failure. Also, WIL Co-ordinators need to be capacitated as the majority of respondents indicated that training to facilitate WIL is extremely important (64%). 72 percent of the respondents indicated that the visits by the Co-operative Education Practitioners in workplaces are extremely important.

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CHAPTER 1

OVERVIEW OF THE STUDY

1.1 Demarcation of chapters

Chapter 1: Overview of the study

Chapter 2: Literature review and the Co-operative Education practice at Durban University of Technology, International and National

Chapter 3: Research methodology

Chapter 4: Pilot study, findings and discussions

Chapter 5: Qualitative results

Chapter 6: Quantitative results

Chapter 7: Conclusions and recommendations

1.2 Introduction

There is a concern by Co-operative Education Practitioners (Co-op Practitioners) that they are inadequately capacitated to facilitate the support for learners who are undertaking Work Integrated Learning (WIL). It is believed that this may have a negative impact on the Co-operative Education practice and could derail the process of the development of skills that is rendered by the engagement of learners in WIL. This suggests that the stakeholders such as the Co-operative Education Practitioners, as well as the external partners or employers should be sufficiently equipped and empowered to drive this challenging work. This may, as a result, have an adverse impact on the students as they would drop out or perform badly on this

learning programme. The term Co-op Practitioners refers to every person who takes part in any activities of Co-operative Education such as Work Integrated Learning, e.g.: WIL Co-ordinators, Learner Support Practitioners, University Mentors, Industrial Supervisors, Placement Officers as well as the academic staff that is involved in the co-ordination of WIL. It should also be noted that WIL students are from different backgrounds. Some of them are from rural areas where there is a scarcity of industries. The opportunity of getting a placement in industry to do WIL is a very unusual experience to them. Therefore, this study focuses on the qualities and competencies of individuals that are required to facilitate learning support to such students and every other learner during their experience in the workplace.

The Durban University of Technology (DUT) is used as a case study to investigate the above problem. In general, at DUT, during semester four, or just before the completion of their course work during semester five and even much earlier in some programmes, students are required to participate in WIL orientation, aimed at improving their knowledge and attitude towards the world outside the classroom. In this programme, students are required to attend work preparedness workshops in which a guest speaker from industry is invited to address these students on industry expectations. These workshops are compulsory, but at this stage, there is no academic credit. This is done in order to prepare students for the world of work. This would followed by the recruitment, interviews and placements which will be explained at a later stage.

1.3 Terminology and definitions

The major terminology can be defined as follows:

- 1.3.1 ***Co-operative Education*** - a philosophy of learning that promotes the concept of enhanced learning based on co-operation between education institutions and industry, commerce and the public sector (CHE, 2007: 75).

- 1.3.2 **Development** – is the formal education, job experience, relationships, and assessment of personality and abilities that can help employees prepare for the future (Botha *et al.*, 2014: 194).
- 1.3.3 **Education** – the deliberate, systematic and sustained effort to transmit, evoke or acquire knowledge, attitudes, values, skills, and sensibilities, and any learning that results from the effort, intended or unintended (Botha *et al.*, 2014: 193).
- 1.3.4 **Experiential Learning** – An additional period of time to the formal educational component of the training or instruction normally provided by the educational institution and may assume various forms with the objective of facilitating learning in the real world of work and/or extending the candidate the opportunity for experiential performance within this environment; purposeful monitoring is implicit and it is preferable to include or reflect in the candidates final performance evaluation any achievements during experiential learning; the objective is also guided investigation of an occupation, irrespective of the frequency of duration of the interval in order to allow the trainees, hand-on experience, of the demands of immediate usefulness (Engelbrecht, 2003: 14).
- 1.3.5 **Human Resource Development** – the mobilization of human talent and potential through lifelong learning to contribute to the social, economic, cultural and intellectual life of a rapidly changing society (Kruss, 2004: 675).
- 1.3.6 **Human Resource Management** – refers to the development and application of policies, systems, practices and procedures that direct the thinking, attitudes and behaviour of people in the organisation towards performance to support the vision and short and long term objectives of the organisation, while at the same time satisfying personal need (Botha, Du Plessis, Nel, Ngalo, Mey, Poisat, Van Hoek and Werner, 2014: 4).

- 1.3.7 **Internships** - A term used where a student or a recent graduate is undergoing supervised clinical/practical education/training. An intern is the term typically used for recent medical school graduates who are learning medical practice in a hospital under supervision, prior to beginning a residency program (CHE, June 2004: 24).
- 1.3.8 **Learner Support** – This can be broadly described as a commitment to assist, prepare students and provide opportunities for them to acquire relevant industrial skills and experience by preparing the learners for the workplace, marketing WIL to external stakeholders and the actual placement, doing public relations activities to relevant stakeholders, counselling students in times of need, sourcing WIL funding from the relevant structures, taking leadership roles in their training, advising students and relevant stakeholders, monitoring their progress and assessment of their work, managing relationships by building and maintenance as well as administration of the operations of WIL in their course of study (Defined for the purpose of this investigation).
- 1.3.9 **Learnership** – is a means of obtaining a qualification while working. There are two ways in which learnerships function: 1) an employer may decide to run a learnership, or 2) a training service provider will run a learnership and assist students in finding placement at a workplace. Companies form a relationship with a training service provider, for example an FET college, and the trainer either comes to the workplace (if there are enough learners), or the learners attend a training program run by the training provider. A learnership is a training programme that combines theory at a college or training centre with relevant practice on-the-job. There is no learnership if there is no on-the-job practice. The idea is that people really learn the 'ins and outs' of an occupation by practising all its aspects under the guidance of an experienced and qualified person. In order to become qualified themselves, learners will have to be assessed against occupational standards that have been agreed to in advance by industry stakeholders. Learnerships are based on legally binding agreements between an employer, a learner

and a training provider. This agreement is intended to spell out the tasks and duties of the employer, the learner and the training provider. It is designed to ensure the quality of the training and to protect the interests of each party (CHE, 2011: 73).

- 1.3.10 **Management** – The task of coordinating and overseeing the work activities of others so that their activities are completed efficiently and effectively (Bergman, 2009: 10).
- 1.3.11 **Placement** – Students gain practical experience in the workplace usually with a view enter a specific practice area (McLennan & Tyler, 2007: 3).
- 1.3.12 **Training** – is primarily directed at improving an employee's job performance in the short run, according to a specific job standard (Botha *et al*, 2014: 193).
- 1.3.13 **Sandwich Programme** - is used to denote a higher education curriculum containing a work placement that is integral to the achievement of the intended learning outcomes for the programme. Thick sandwich programmes contain a year-long work placement normally in the third year of a four year programme. Thin sandwich programmes contain one, or sometimes two, shorter (typically 6 months or semester (12 to 15 weeks) work placements). In sandwich programmes the experience of working and learning in the work place enables the learner to develop in ways that are consistent with the programme aims and intended learning outcomes (CHE, 2011: 75).
- 1.3.14 **Work-based learning (WBL)** – A component of a learning programme that focuses on the application of theory in an authentic, work-based context. It addresses specific competencies identified for the acquisition of a qualification, which relate to the development of skills that will make the learner employable and will assist in developing his

or her personal skills. Employers and professional bodies are involved in the assessment of experiential learning, together with academic staff (CHE, 2004: 24).

- 1.3.15 **Work Integrated Learning (WIL)** – is an educational approach that aligns academic and workplace practices for the mutual benefit of students and workplaces CHE (2011: 78). According to Engelbrecht (2003: 24) WIL refers to ‘specific skills acquired through work and directly related to classroom teaching. It implies a concurrent process. It may be defined as a form of education that integrates periods of academic study with periods of work experience in positions relating to the students and Patrick, Peach and Pocknee (2015: 1) define WIL as an “umbrella term for a range of approaches and strategies that integrate theory with the practice of work within a purposefully designed curriculum.
- 1.3.16 **Work Readiness Programme** - includes specific work-related skills that young people and adults need in order to be successful as entry-level workers in any formal sector business or industry or in any informal sector livelihood (EQUIP, 2012: 1).

These definitions will be the foundation of this study to address the problem statement.

1.4 Problem statement

There is no formal training to capacitate Co-op Practitioners and employers in order for them to facilitate support for learners that undertake WIL. Moreover, in most cases there is very little or no induction offered by Universities of Technology into the co-ordination of WIL. The experience taught the researcher that the facilitation of learner support is a requires a person with special competencies, as they need to be able to build and maintain relationships between employers from different industries and the university in order to create opportunities for industrial research, joint

ventures and placement opportunities for WIL. Moreover, these practitioners have to attend to different requests and needs of external stakeholders such as curriculum updates, information about placements on top of the lecture loads that they have. The challenges revolve around the fact that these practitioners should be multi-skilled, whereas they have not received formal training for the duties that they are expected to perform and in most cases they also have a lecturing load. For an example, the purpose of ethics training is to create a shared understanding of what constitutes unethical behaviour (Botha *et al*, 2014: 18).

According to Forbes (2007: 1), the main challenge of learner support is to review the role, responsibilities and qualities of practitioners who manage the student experiential learning process. The qualities of practitioners required to facilitate and deliver learning support to the students during their experience in the workplace are very crucial and must take priority in the selection of such staff members. Co-op Practitioners play significant roles of being public relations officers, counsellors, customer advisors and supporters to name a few. Dunn and Pocknee (2007: 1) also described the responsibilities of what they refer to, in their model at Swirnburne University of Technology, as Industry-Based Learning co-ordinators, to include leading, managing and administering the placements on behalf of their units. These individuals need to acquire special skills and competencies as these responsibilities are imposed on them as a set of administrative duties.

As mentioned earlier, some of the additional responsibilities for Co-op Practitioners include identifying and persuading relevant organisations to form partnerships with educational institutions and inviting these organisations to take part in WIL programmes. This also involves preparing students for a placement opportunity in industry as well as preparing industry for the WIL in order for the students to achieve the outcomes of training. The skills and qualities to perform these tasks do not come naturally, hence there has to be a provision towards capacity building. If cognition of these skills and qualities is not taken, then this may lead to a loss of important partnerships. WIL students may lose interest and enthusiasm as a result of being under supported and inadequately prepared for a placement. This may also lead to the collapse of the effectiveness of the co-operative education practice. According to Engelbrecht (2003: 260) a number of WIL programmes with an experiential learning

component have failed because the power or energy behind was but a single person with limited compelling force. Therefore, this investigation aims to identify the qualities, competencies, capacity needs, personality traits and skills that Co-op Practitioners need in order to facilitate the support for learner who undertakes WIL. This is done in order to develop and structure a training programme for all Co-op Practitioners. Subsequently, these qualities and skills will be used to create a job profile of Co-op Practitioners.

1.5 Rationale of study

As a former lecturer in the Department of Chemistry at the Durban University of Technology, before, during and after the merger of Technikon Natal and ML Sultan Technikon that took place in the year 2001 to 2003, the researcher was required to take part in the programme of mentoring students that undertook the WIL component of the Analytical Chemistry Diploma qualification in industry. It was assumed that this mentoring programme only focused on monitoring the progress of the student's learning and making an input towards the Chemistry project or investigation that WIL students had to do. Several years later in 2005 to 2008, the researcher was appointed by the Chemistry Department to serve as a WIL co-ordinator for the department. This was done without any formal training. The researcher's responsibilities included, but were not limited to the following:

- Placing students in industry for experiential learning and lending the necessary support such as, arranging work preparedness workshops to discuss CV writing and interview skills, industry guest lectures and factory visits.
- Communications with industry persuading them to employ our students for WIL.
- Attending to student queries and assisting them with their difficulties (in some cases these are at a personal level). For example, according to the Council of

Higher Education, Co-op Practitioners should attempt to integrate a range of student support mechanisms (e.g mentors, counsellors for sexual harassment cases as well as any other forms of discrimination) provided by the universities and as well as those that are provided by workplaces (CHE, 2011: 62). According to Mackaway, Rowe and Winchester-Seeto (2012: 115) the students that are going away from learning institutions into workplaces involves someone in the workplace looking after the students. The actual task and responsibilities of the person, whom we refer to as the host supervisor, vary enormously depending on many factors such as the length and purpose of the placement, the age of the students, the stage of the education the student has attained, type of workplace, the traditions of the discipline area and the accreditation requirements of particular professions (Mackaway, *et al*, 2012: 115).

Based on the experience that the researcher learned, this portfolio requires an individual who possesses specific human resource skills. Therefore the need to pursue this research that intends to investigate and produce a human resource profile to facilitate learner support of WIL. The findings of this research could outline key performance areas and competencies of Co-op Practitioners for WIL programmes. It is envisaged that this would be of benefit to all practitioners in Co-operative Education, students as well as the UoTs in general in the sense that many students will be able to complete their training and the throughput rate for DUT will improve. Also, the relationships with external partners will be well maintained. A similar model is implemented at the University of Waikato in New Zealand. In the Waikato science placement programme, placement co-ordinators secure the placement for the student (Laslett & Zegwaard, 2011: 105). It is believed that this level of interaction also allows for better employer/university interaction and strengthens the tripartite relationship although this process is labour intensive, that is, it limits the student to staff ratio to 45:1 in addition to staff administration and research responsibilities. According to Perumal (2010: 12) WIL addresses specific competencies identified for the acquisition of a qualification WIL which relates to the development of skills that will make the student employable and will assist in developing his/her need. Therefore, individuals that handle such activities should be

carefully selected in order to ensure that they have the necessary qualities and should also be trained to facilitate WIL.

1.6 Scope of study

This study focuses on and is limited to the operational systems of DUT with regards to WIL. Workplace industries will be selected from those that are employing DUT students to do WIL and situated within South Africa. Also, these industries must meet the minimum criteria or requirements in terms of the DUT workplace approval systems. According to Cilliers and Smit (2015: 29) citing Forbes (2013) workplace approval is not a judgemental inspection but an exploratory task. The selected programmes within DUT would be those that incorporate the WIL component in line with the DUT WIL policy. Students will be selected from those that are registered for WIL as well as graduates who undertook the WIL component during their studies. The information collected would rely on their experiences and opinions.

1.7 Hypothesis and guiding research questions

It is stated in Chapter 3 that the *inferential statistical analysis* is concerned with the testing of hypothesis. Also, the most important application in the social sciences of the statistical theory around sampling distributions has been significance testing or statistical hypothesis testing. Chapter 7 is indicative that a larger (88.4%) of employers in this study indicated that the lack of learner support may have a negative impact on the success of WIL students. Therefore, learner support mechanisms such as the visits by university mentors, coaching and monitoring should be improved. This investigation has exhibited the fact that there is merit in training supervisors and Co-op Practitioners who are beginners in overseeing students.

The research questions for the dissertation are the following:

1.7.1 WIL students

1. How would you rate the support from the university mentor that you are receiving since you started WIL?
2. How would you rate the support from the industrial supervisor that you are receiving since you started WIL?
3. How would you rate the learner support contribution towards your personal growth?
4. How often did the university mentor visit you during WIL in industry?

1.7.2 Graduates

1. When do you think learner support should take place?
2. What kind of characteristics or qualities should the following people have?
 - a. industrial supervisor
 - b. university mentor
3. What workplace skills and techniques were learned during WIL?

1.7.3.1 Co-operative Education Practitioners

1. Have you been trained to facilitate learner support of WIL?
2. To what extent have you played the role with regards to WIL?
3. What possible changes would you like to see introduced with regards to learner support?
4. What are the qualities, skills and attributes that are needed in order to facilitate learner support?

1.7.3.2 Interview questions for Co-operative Education Practitioners

1. How does your lecture load compare with that of your colleagues as a WIL mentor or Co-operative Education Practitioner?
2. State a case of learner support that you had to attend to?

1.7.4.1 Employers

1. How long have you been an industrial supervisor or involved in the training of students for WIL?
2. Is the Work Integrated Learning (WIL) programme responding to the needs of your industry?
3. In your opinion, are the learners properly supported during WIL?
4. Would a lack of support to learners contribute to their failure?

1.7.4.2 Interview questions for employers

1. Have you received any kind of training to facilitate learner support of WIL?
2. What are the common needs of students in terms of learner support?

1.8 Aims and objectives of the study

- To investigate the role, responsibilities and qualities of university and industry staff who facilitate support for learners in order to formulate guidelines which may structure the training of such individuals.
- To formulate a human resource capacity profile that will inform the capacity needs for Co-op Practitioners to facilitate learner support by doing a survey, analysing the findings, interpreting the data and drawing conclusions. The survey conducted by formal interviews as well as using questionnaires that are designed for DUT WIL students, Co-op Practitioners, WIL graduates as well as employers.
- To determine the competencies, characteristics, personality traits, communication skills of Co-op Practitioners and examine skills and resources for such qualities.

- To design a training course that would equip the beginners in the facilitation of learner support with skills and also address their human resource capacity needs.

1.9 Limitations of the study

This study faced the following challenges:

1.9.1 Challenges faced in the study

In some cases, the respondents did not return the questionnaires to the researcher. Also, some questionnaires are not fully answered.

Another challenge is a buy-in from Faculties within DUT. While some Faculty members are very supportive, others are uninterested or even openly hostile towards WIL and the research conducted around it. They tend to believe that WIL is an add-on to the workload of having to lecture and in some cases having to conduct experiments in the university laboratories. According to Cilliers and Smit (2015: 22) to manage the WIL workload of lecturers, the Interior Design programme and the new development of a strategy for co-operative education at Tshwane University of Technology can be improved by dividing the responsibilities to all the role-players. This is contrary to how Groenewald (2003: 49) defines WIL as a structured educational strategy that progressively integrates academic study with learning through productive work experiences in a field related to a student's academic or career goals, not as an add-on but integral part of the educational process. In some cases, participants that were targeted were reluctant to participate in a session due to reasons related to fear, their schedules and commitments.

According to potential bias of researcher that follows:

- Although by interviewing the respondent one can probe their WIL experiences in more detail, this study may be biased towards the more vocal participants. This was politely taken as the respondent's views and opinions.
- These respondents have no formal training to facilitate support for learners that are undertaking WIL.
- Some of the programmes, because of the lack of manpower to facilitate WIL, have employed WIL co-ordinators for contract purposes. These WIL co-ordinators will have to attend the mentoring workshops to align them with the procedures and the WIL policy its contents.
- Lastly, contracted WIL co-ordinators would have no empathy and passion for WIL.

1.9.2 Budget

The budget that was allocated to conduct this study was very limited. It did not allow the researcher to extensively travel around KwaZulu-Natal and the rest of the country in order to conduct the survey, especially on the part of the interviews that were conducted with employers as well as present the findings in seminars to get more ideas and opinions.

1.10 Delimitations of the study

This study was conducted at DUT because of the budget constraints. Moreover, most student respondents are African followed by Indian students. No White students and sparingly Coloured students are participated in this study. Also, the respondents from the employers are mostly based at Durban and the surroundings. Questionnaires were given out after targeted events, Advisory Boards, Industry Indaba and SETA Forums that included the employers that were hosted at DUT in

order to ensure that the participants filled and returned the questionnaire. A follow-up was done telephonically to persuade the respondents to return the questionnaires. Respondents were reminded to fill the questionnaire in full. Also, respondents were informed that their opinion was respected and information that they have given was treated as confidential.

1.11 Research design and methodology

The research design has the closed-ended, open-ended questionnaires, WIL students, graduates, Co-op Practitioners and employers with audio recorded interviews. In this investigation the qualitative approach (in the form of semi-structured face-to-face interviews) is implemented to collect data of the experiences of participants. This research implements a Single Case Study (DUT case study) that lends itself to both a quantitative as well as qualitative approach, though they are interrelated. It is stated in Chapter 3 that that mixed method studies are those that combine the qualitative and quantitative approaches in the research methodology of a single study or multi-phased study. It can be categorised as a sequential mixed methods study. It should be noted here that all participants were asked to read the covering letter, complete and sign a consent form. This study is focuses on stratified random sampling. Analysis of data by statistical tools was also performed.

1.12 Government documents

It should be acknowledged that the Department of Higher Education and Training (DHET), the Republic of South Africa supports WIL. The researcher also collected information from government documents as well as new reports outlining the commitments that were made by government in the media. The government documents used in the study are the following:

- Council of Higher Education ranging from 2004, 2007 and 2011.

- Department of Higher Education and Training (DHET). 2011. *National Skills Development Strategy III* (NSDS III), RSA.
- Department of Higher Education & Training (DHET). 2012. *Green Paper for Post-School Education and Training*. Building an expanded, effective and integrated post-school system. Published by DHET. RSA,
- Department of Higher Education & Training (DHET). 2013. *White Paper for Post-School Education and Training*. Building an expanded, effective and integrated post-school system. Published by DHET. RSA.
- National Skills Accord (NSA). n.d. The National Economic Development and Labour Council.
- The Higher Education Qualifications Framework (HEQF). 1997. *Government Gazette*, Republic of South Africa.
- The Higher Education Qualifications Sub-Framework (HEQSF). *Government Gazette No. 36003*. 2013. South Africa, DHET.
- The New Growth Path. 2010. *The Framework*.

These documents are part of the literature review in Chapter 2.

1.13 Summary

The researcher believes that this study will clarify the role of Co-op Practitioners and develop learning materials to address their capacity needs. Some students would find their own placement opportunities. This would still need to be managed by Co-op Practitioners in terms of the relevancy to their programmes. This will be discussed in the literature review in Chapter 2.

CHAPTER 2

LITERATURE REVIEW AND THE CO-OPERATIVE EDUCATION PRACTICE AT DURBAN UNIVERSITY OF TECHNOLOGY, INTERNATIONAL AND NATIONAL

2.1 Introduction

There is a growing need to investigate the human resource capacity needs as well as to determine the qualities and competencies of all Co-operative Education Practitioners. Most Co-operative Education or WIL programmes are available to students in all academic disciplines, and provide additional employment support such as resume building workshop, job interview preparation and professional development courses (Drysdale and Mcbeath (2012: 170) citing (Doel, 2009)). Employers are thus increasingly seeking capacities that transcend specific disciplines (Keele, Moss, Sturre, and Von Treuer, 2012: 71) citing (Caballero and Walker, 2010: Graduate Careers Australia, 2008). Human resource management is a dynamic discipline which is aimed at intelligently responding to the challenges posed by the continuously changing national and international environment (Botha *et al*, 2014: preface). This is done in order to improve the facilitation learner support for WIL in the curriculum of different programmes within the Universities of Technology (UoT). Koch (2012: 2) explained that WIL is an essential component within UoT in South Africa and is integrated in a broad range of undergraduate programmes. The key objective of WIL is to lay open the learners to real existing working environment so that they can become supplying value-added graduates like better by employers. The general model that is put to use by UoTs such as DUT is that students, after finalization of their course work, would first impose the need to take part in a Work Preparedness Skills Workshop, which is followed by placements in industry or WIL programmes. This type of learning is uninterrupted monitored and assessed or evaluated in order to measure the deemed correct outcomes.

Co-op Practitioners play a significant role in ensuring a seamless running and quality management of WIL. Some of the challenges revolve around the fact that these co-ordinators should be multi-skilled despite the fact that they have not received a

formal training for the duties that they are expected to perform. Jacobsz and Wessels (2012: 4) alluded to the fact that the role and purpose of Co-operative Education can be regarded as having many facets, as a gem when the intricacy and the various role-players are considered. They went on to explain citing Garavan and Murphy (2001: 282) who gave a description of the value of Co-operative Education to a student as being magnified or intensified student confidence, self cognition and bring into a more desirable social skills, greater practical knowledge and skills as well as more employment good prospect as for success. In this chapter, the researcher will be focussing on literature review and the sub-sections are WIL students, graduates attributes, corporate sector and the higher education sector, marketing and promoting WIL programs, skills development, work-based learning, learner support, theoretical framework of WIL, learner support in higher education institutions, learner support in the workplace, learner support system at DUT, training for facilitators of learner support, mentoring, management and control of WIL, at an international level, institutional level and at DUT programme level as well as human resource management capacity building for Co-op Practitioners at DUT.

2.2 Literature review

According to the Higher Education Qualifications Sub-Framework (HEQSF, 2013: 11) some qualifications will be designed to integrate theory and practice through the incorporation of WIL into the curriculum. WIL is characteristic of vocational and professionally-oriented qualifications, and may be incorporated into programmes at all levels of the HEQSF. In the HEQSF, WIL may take various forms including simulated learning, work-directed theoretical learning, problem-based learning, project-based learning and workplace-based learning. The selection of appropriate forms of work-integrated learning depends on the nature and purpose of the qualification type, programme objectives and outcomes, the National Qualifications Framework (NQF) level at which the WIL component is pegged, institutional capacity to provide WIL opportunities, and the structures and systems that are in place within professional settings and sites of practice to support student learning. Where WIL is a structured part of a qualification the volume of learning allocated to WIL should be appropriate to the purpose of the qualification and to the cognitive demands of the

learning outcome and assessment criteria contained in the appropriate level descriptors. The HEQSF (2013: 11) went on to elaborate that where the entire WIL component or any part of it takes the form of workplace-based learning, it is the responsibility of institutions that offer programmes requiring credits for such learning to place students into appropriate workplaces. Such workplace-based learning must be appropriately structured, properly supervised and assessed. Koch (2012: 2) pointed out that the WIL subject is compulsory within most of the academic qualifications of the UoT. She also alluded to the fact that as a reflection of the student's exposure within industry, a wide range of assignments, portfolios, logbooks and any other formats need to be submitted to the course lecturer for assessment. In order to assess integrated learning, integrated assessment strategies should be used; and they should be based on combined embedded knowledge, in terms of equal parts of the classroom and experiential learning processes (Moletsane and Moloi, 2015: 3). According to Cilliers and Smit (2015: 23) the research outcomes, which are dependent on both the theoretical classroom study periods and the more practical WIL phases, are planned as part of the model since WIL forms an integral part of a student's qualification.

Co-operative Education has an important role to play in supporting academic excellence and workforce development if it can successfully contribute to the development of student learning outcomes (Dressler & Keeling, 2011: 261). Edwards, Martin and Rees (2012: 29) warranted that the academic mentor provides advice and support to the student while the student is on placement and is a point of reference within the university to whom the student can turn for either academic/learning outcomes or administrative matters related to the placement. Also, according to Edwards, Martin and Rees (2012: 25) citing Hodges (2011) the learning outcomes should also be determined between the student and work supervisor as they emerge during the course of the placement. As mentioned earlier on, the concern is that Co-op Practitioners as well as external partners are not trained to drive the challenging work of facilitating learner support. According to Forbes (2007: 1), collaborative education partnerships with employer bodies result in a host of relationship dynamics that questions the roles and responsibilities of staff in support of learner facilitation. Forbes (2007: 1) also alluded to the fact that the State funding (using Sector Education and Training Authority – SETAs) of work-based

learning has been questioned and this is in part due to the lack of appropriate resources to develop, support and maintain the academic and pedagogic rigour of the off-campus student learning experiences. Employer pledge to work-based learning will clearly help to stimulate a approval for a supportive learning environment (Brennan & Little, 1996: 91). According to Koch (2012: 2) the WIL experiences can be off-campus, project based (real or simulated), all depending on the academic discipline. The most effective and valuable learning experience for people in work, is often that which occurs through the medium of work, or is prompted in response to specific workplace issues (Clarke and Llewellynn, 2012: 149) citing (Eraut, Alderton, Cole and Senker, 2000; Eraut, Steadman, Maillardet, Miller, Ali, Blackman, *et al.*, 2005; Felstead, Fuller, Unwin, Ashton, Butler and Lee, 2005). Moreover, to address poverty and unemployment and to ensure that the necessary skills for every sector of the economy are developed, the South African government has launched the Joint Initiative on Skills Acquisition (JIPSA) and SETAs (Botha *et al.*, 2014: 8) citing (Sharp, 2010). The success of any programme is largely dependent upon the attitude towards it, held by those primarily involved, in this case prospective and current students, Faculty and Administrators and employers (Rowe, 2011: 332). The majority of students especially in the Faculties of Engineering and the Built Environment and Applied Sciences complete WIL as a capstone to their qualification during their final year by working fulltime for an employer. A major benefit of the capstone approach is that students are able to stay with their employer as a permanent employee at the end of the internship if a position exists, because they would have completed their on-campus studies (Baker, Caldicott & Spowart, 2011: 221). Over and above this, Co-op Practitioners attend to different requests as well as the needs of external stakeholders such as employers that place students for WIL.

Co-op Practitioner/Administrators can be Faculty-based or professional staff hired for the purpose of administering a programme, as compared with Boud and Solomon's (2001: 218) perspective that partner organizations want fulltime academics involved, not sessional staff hired for this purpose. In most South African universities, Co-op Practitioners are lecturers whom are split between administering and lecturing. Brown and Cooke (2011: 357) mentioned that in South African HEIs, students are assisted to find experiential learning opportunities by their lecturers, supported by

university Co-operative Education Units. There are two sets of lessons to be drawn from this study explained Lubis (2010, 10). One relates to the prospects for the students of becoming self-employed. The other relates to the lesson of WIL for other higher education institution with some innate university-based resources. Co-operative Education programmes all over the world face the challenge of selecting, developing and supporting administrators who must possess a rare combination of skills and talents (Howison, Lazarus & Oloroso, 2011: 343). According to Edwards, Martin and Rees (2012: 29) an on-campus academic mentor and a workplace supervisor are both important in providing on-going support and guidance to the student. Mackaway, Rowe and Winchester-Seeto (2012: 117) citing Bray and Nettleton (2007) and Gray and Smith (2000) highlighted that host supervisors are generally expected to offer support and guidance to students. The qualities of practitioners required to facilitate and deliver learning support to the students during their experience in the workplace are very crucial and must take priority in the selection of such staff members. Brown, Butler, Field, Gamble, Kift and Mcnamara (2012: 4) citing Gardner (2012) warranted that a further vital component of any positive transition to the world of work is support for students to manage their planning and development processes, and the provision of opportunities for them to consider how their own knowledge and skills might interact with different professional skills set. Cooper (2011: 245) reported that learning in Co-operative Education is regarded as being developmental – a process of change and transformation over time. He further explained that fundamental to any practice learning is the instructional relationship, with supervision being the process to describe this instructional relationship. Therefore, Co-op Practitioners play a significant role of being public relations officers, counsellors, negotiators and relationship managers. They are also expected to provide the most effective quality support to learners who undertake WIL. Co-operative Education is not successful without support being provided to the student, instructor or supervisor and to the organization (Copper, 2011: 245).

There have been many studies discussing the relative importance of workplace skills as perceived by business employers, graduates and students. Bartkus and Higgs (2011: 75) reflected in their chapter *Research in Co-operative Education* that work-education research has gained added respect in the academic and workplace

communities. They further pointed out that in their view, this has arisen from two other sources in addition to scholarly research, namely; (1) student's preference for courses that prepare them for work/practice and (2) the expectations of stakeholders including course accreditation authorities, employers and marketing departments of universities who are likewise interested in work readiness and broader preparation for society as well as work. They believe that research is only one part of the driving force for the adoption and perceived value of work-education experiences. Workplace and work-readiness skills are considered important in ensuring that this process occurs seamlessly: such workplace-readiness skills are key to the successful entry into the workplace, and to continued employment (Moletsane and Moloi, 2015: 7). According to Clarke and Llewellynn (2012: 149) citing (Billet, 2001) the readiness of the workplace to afford opportunities for individuals to participate in work activities, access and direct support are key determinants in the quality of learning that arises from that participation. Also, according to Harvey (2000: 105) there is growing pressure on higher education to develop the relationship between the academy and employment. The primary purpose of higher education is to prepare students for the world of work. In South Africa, Universities of Technology (UoT) former Technikons have always offered programmes in which a learner has to be placed in the relevant programmes to undertake WIL.

2.2.1 WIL students

Students enrol at an institution of higher learning with a specific purpose: to acquire a qualification, find employment, be independent and obtain an advice in their chosen career (Nofemela, 2015: 92) citing (Moleke, 2015). Today's interdependent and complex world requires that we prepare young men and women for innovative competency through co-operative and work-integrated education (Moletsane and Moloi, 2015: 1). Work-integrated learning is a process mainly implemented in universities for the purpose for giving students exposure to the working environment and thus enhancing their employability (Wheeler, 2015: 104) citing (Windberg, Engel-Hills, Garraway & Jacob, 2011). Placements that are merely observational in nature are not deemed acceptable according to Copper (2011: 244). This suggests that students who undertake WIL need to gain hands-on experience. Therefore,

they always need to be supported by the Co-op Practitioners before and during their period as WIL students. Du Pre` (2009: 25) describes WIL as a strategy of applied learning (learning integrated with work) which involves a structured educational programme that combines productive relevant work experience with academic study and professional reflection. He further explains that students are required to undergo a period of on-the-job training as part of their degree and/or diploma studies. This period varies from weeks, to months, and a year (in some programmes) in their final year of study. The main advantage is that students gain experience in a professional field during their formal studies and begin a working life with knowledge of the market place, organisational structures and employer expectations. Edwards, Martin and Rees (2012: 28) explained that providing clear documentation on academic/learning and administrative matters around WIL, and identifying the support available if needed, to students and supervisors in the field allow each to make the most of the workplace opportunity and assists them to establish realistic expectations and achieve learning outcomes. Boles and Beck (2007: 5) identified the benefits of WIL as a preparation of students for the world of work and their place in it, and to provide organisations with better educated and work-ready employees. This is also reinforced by Adams and Hills (2007: 2) when they cited Friedman and Phillips (2004) in a review of Continuing Professional Development (CPD). They identified two strands of CPD: the first as learning that will foster personal development and produce professionals who are flexible, self-reflective and empowered to take control of their own learning; and the second as a means of training professionals to fulfil specific work roles and as a guarantee of individual professional competence. The work of these researchers shows the important role that has to be played by Co-op Practitioners. Jacobsz and Wessels (2012: 5) explained citing De Lange (2004) that the particular role and factors related to Co-operative Education in Higher Education Institutions (HEI) may include, among others, national and international networks, industry connection, engagement with alumni, staff development and training, budgeting, direct entailment in curriculum development, partnership with industry, research in Co-operative Education, furtherance of Co-operative Education and the management and administration of Co-operative Education. Brennan and Little (1996: 87) support this when they explain that most of their not long past work-based learning development projects

have established as being a need for some initial mentor training, although there is clearly a range of practice about the extent and formality of such training.

The other advantage of WIL for both students and employers is that students are readily prepared when they enter the workplace. Ferkins and Fleming (2011: 185) mentioned that in some instances, industry supervisors expect unrealistic outcomes from the students, equally, the opposite can occur where a student is not sufficiently challenged. Weak students need to be given a special attention. Lay and Todd (2011: 120) stated that challenge in the engineering programmes include finding placements for academically and/or practically challenged students. They further explained that if students are both technically and academically challenged, it is almost impossible to find and recommend them for work experience (and maintain a good relationship with the employer).

2.2.2 Graduate attributes

The role and ultimate measure of an institution's success should not so much be the throughput of its students, but whether or not its graduates are able to find employment and meet the requirements of the employers with respect to their performance. It is imperative for an institution of higher learning to keep abreast of the evolution that characterises the world of work and to understand the different needs of the different sector with respect to the type of graduate that they produce (Nofemela, 2015: 92). The demand for graduates who can function effectively in the workplace has resulted in University of Technology and Comprehensive University in some instances experiencing mission drift, losing the focus on their mission of producing technicians, technologists and other mid-level skills at undergraduate level (White Paper for Post-School Education and Training, 2013: 11). The committed support of its external partners (industry, government and the non-profit sector) are critically important for the success of DUT as it endeavours to meet the need to produce socially responsible graduates who are conscious of their role in contributing to the national development effort and social transformation (DUT Strategic Plan 2015 – 2019: 4). One of the major challenges to which the National

Skills Development Strategy is responding to, is the inadequate skills levels and poor work readiness of many young people leaving formal tertiary education and entering the labour market for the first time (NSDS III, 2011: 6). This could also reduce the employability of successful graduates. Employability is more than the development of attributes, techniques or experience just to enable a student to get a job. Rather, it is about growing as a person and learning to know oneself within the working environment (Wheeler, 2015: 106). Furthermore, Wheeler (2015: 106) explained that the emphasis of WIL thus less on 'employ' and more on 'ability'. Employability skills include communication skills, teamwork skills, problem solving skills, self management skills, planning and organising skills, technology skills, life-long learning skills and enterprise skills (Woodley, 2010, 3) citing (DEST, 2002). A strong support base is needed for these young people. Also, there is pressure on HEIs from both government and employers to produce graduates who are employable in the sense that they have the attributes, capabilities and dispositions to work successfully (Griesel & Parker, 2009: 1). Furthermore, universities are faced with increasing pressure to produce employable, work-ready graduates for a constantly and rapidly changing work environment (Jacobs, 2015: 41). According to The New Growth Path document released by the Economic Development Minister Ebrahim Patel in December 2010, the government will set targets for growth in the public service to meet the needs. This will be combined with measures to expose young people to work experience through internships in the private and public sector (The New Growth Path, 2010: 13). Brimble and Freudenberg (2010: 2) highlighted that WIL is aimed at improving the employability of graduates by giving them valuable practical experience which is directly related to courses being studied a university.

In their baseline study on South African Graduates, Grisel and Parker (2009: 9) presented a table of the employer's rating of the quality and importance of attributes associated with basic skills and understanding. This is shown in **Table 2.2.1** that denoted the graduate attributes versus the satisfaction rating 'what you get' and the importance rating 'what you expect' as well as the GAP which denotes the difference of the two. Satisfaction with graduate competence and understanding was rated on the scale of 1 to 5, where 1 denoted 'very dissatisfied and 5 denoted 'very satisfied', whereas the importance of graduate competence and understanding to employers or respondents was also rated on the scale of 1 to 5 where 1 denoted 'unimportant' and

5 denoted 'very important'. According to the National Strategy on Work Integrated Learning in University Education (2015: 2) in Australia, graduates identify WIL as having positive impact in making the transition to work and their competitiveness in the labour market, often identifying the practical experience they gained through WIL as crucial to getting a job. A total of 99 employers from various industries responded to the questionnaire. According to Clements and Hays (2012, 3) in general, it can be said that (a) graduates themselves often report lacking important understanding about workplace culture and behaviour, not to mention feeling inadequate with respect to practical skills and (b) managers in employing organisation consistently rate new graduates as poorly equipped in terms of practical and interpersonal skills (citing Wendlandt and Rochlen, 2008) for additional strong support of this assertion.

Table 2.2.1: Employer's rating of the quality and importance of attributes associated with basic skills and understanding

Attribute	Satisfaction rating 'what you get'	Importance rating 'what you expect'	GAP
Ability to find and access information	3.5	5.0	1.45
Written communication skills	3.2	4.5	1.34
Ability to use information	3.4	4.6	1.23
Oral presentation skills	3.1	4.3	1.20
Ability to handle large amounts of information	3.4	4.5	1.17
Technical ability	3.3	4.4	1.08
Numeracy of quantitative literacy	3.5	4.5	1.01
Ability to use information	3.5	4.5	0.99
Computer literacy	3.6	4.6	0.99
Proficiency in English	3.5	4.4	0.98
Exposure to the work	3.0	3.8	0.81
Knowing the organisation	3.1	3.8	0.77

Source: Grisel and Parker (2009: 9)

A number of research reports across the different disciplines have identified that employers consider that it important for graduates to have a broad range of both cognitive and behavioural competencies (Hodges, 2011: 55). One can realize by looking at these graduate attributes that some of them cannot be taught in a classroom. They require mentorship and guidance with a lot of interactions between employers, students and mentors from the university. This can also form part of learner support. There are strong indications that Co-operative Education builds better student's academic results because of the connections made between theory and practice, which adds meaning and understanding to student's knowledge, and thus performance improves (Crump & Johnsson, 2011: 287).

2.2.3 Co-operative Education Practitioners

Co-op Practitioners play an important and proper function in making certain the smooth running and quality management of WIL. Forbes (2007: 1) supports this when he says "the educational management aspects of learner support and facilitation in the workplace are generally not recognised as having any learning outcomes for students". As a result this is delivered as a set of administrative processes and responsibilities that are given as an add-on function to lecturers with some reduction in teaching loads. Mackaway, Rowe and Winchester-Seeto (2012: 119) warranted that other possible responsibilities include acting as primary contact for the student and academic supervisor and inducting students into the workplace and providing support during the transition period (as cited from Proctor, 1994; Rothman, 2007; Smith et al., 2006). Furthermore, according to Cilliers and Smit (2015: 29) the following key performance areas (KPA's) for the employed WIL co-ordinator place a number of the major tasks and responsibilities on their shoulders:

- Support
- Education
- Administration
- Management
- Guardian to students

- Mentoring (Tshwane University of Technology, Duties for WIL co-ordinators, 2012).

On the other hand, Howison, Lazarus and Oloroso (2011: 337) pointed out that the administration of Co-operative Education/WIL programmes calls for individuals who possess a unique set of skills and insights equipping them to draw together constituencies that do not normally coexist peacefully. They went on to further outline some of the overarching challenges that are faced by Co-op Administrators:

- ability to bridge the vast cultural differences between their academic institution and organizations that employ their students.
- administer a programme that is stimulating in the work placement sense while also fulfilling the needs of the institution in reference to the academic requirements.
- guide and develop a programme in such a way as to bridge the talent development aspects of the academic institution and talent acquisition priorities of the employer.

Brennan and Little (1996: 87) explained that the not long past work-based learning advanced form projects have identified a need for some initial mentor training, although there is clearly a range of practices about the extent and rigidity of such training. They further elaborated that training alters from one day initial training/briefing sessions (either on a one-to-one basis, or in a group), a sequences of workshops run over an academic year, through to formally substantiate (by an academic institution) open learning programmes lasting six months. Bates and Madu (2011: 233) also suggested that in order to address some of the potential concerns, the university may provide a number of workshops throughout the placement for workplace supervisors. They further pointed out that these provide a venue to meet with supervisors from other organizations while providing opportunities to discuss the expectations of the university and their own individual

organisations, the expectations and the progress of students, and generally use this time to communicate with others and alleviate any concerns that may be evident.

According to Du Pre` (2009: 9) WIL is and should always be a constituent part of a UoT education programme to furnish students with pertinent work experience. This comes as consequences of the partnerships and relationships between UoT and external associates such as industries, commerce, government, communities and nongovernmental organizations. Du Pre` (2009: 23) further explains that institutions of higher learning have understand clearly that both the possible and the need for co-operation, partnerships and joint undertaking involving uncertainty as to the outcome with industry and business, linked to an entrepreneurial approach. The key objective is to expose the students to actual working environment so that they can become value-added graduates preferred by employers. Gamble, Thompson and Zdenkowski (2007: 1) also support this when they rendered understandable reasons for the introduction of Co-operative Education are firstly to supply students with bearing upon work experience that would raise to a higher degree of their employability upon graduation and secondly, to foster relationships between universities and external partners. Chiupka, Drysdale, Groenewald and Johnston (2011: 20) pointed out that an initial model comprised a tri-partnership: the educational institution, the employer, and the student. Chiupka *et al.*, (2011: 20) also cited Kerka (1999) who identified two pedagogies within this model: the sandwich, involving alternating semesters of academic coursework with equal duration of paid employment; and the parallel method of splitting the day, having classes in the morning followed by afternoons of experiential learning.

2.2.4 Industrial supervisor/Employers

The comments made by employers during interactions in networking sessions as well as the responses of students during debriefing sessions at DUT pointed out that WIL programmes seems to be of great benefit to students who undertake it. Reflection and debriefing on the work experience by universities and parties involved are required to ensure that the personal value to the student is captured and understood (Wheeler, 2015: 105) citing (Bates, 2008). Industry partners offer

placements for numerous reasons varying from financial imperatives (that is, a value-added ethos) to an approach based on stakeholder imperatives or a transformative ethos (Bok, Evan and Levin, 2010, 2). Post-placement debriefing is equally important in consolidating placement learning (Hodgson, 2010, 9). The main challenge of learner support is to review the role, responsibilities and qualities of practitioners who manage the student experiential learning process (Forbes, 2007: 1). Experiential learning is a structured, guided process, focused on education, and designed to increase the likelihood that particular competencies will occur in a non-random manner (Dressler & Keeling, 2011: 262). The qualities of practitioners required to facilitate and deliver learning support to the students during their experience in the workplace are very crucial and must take priority in the selection of such staff members. Research on these characteristics may lead to guidelines which may more effectively structure the training of such individuals, and aid in the screening and selection of staff to effectively deliver academic support for the Work Integrated Learning (WIL) and teaching practice programmes (Hartley, 1988). Keating (2012: 93) citing Nicolaides (2006) believes that industry needs to play a greater role in encouraging WIL experience for students as this provides an ideal opportunity for academics and employers to build long-term relationships and a greater potential for working together to meet industry needs and want.

2.2.5 Corporate sector and the higher education sector

There are other numerous forms of co-operation between the corporate sector and the higher education sector. These include the granting of scholarships, continuing education, co-operative education, company visits, practical training in term break, special research project, exchange of teaching personnel as well as exchange of equipment. Ahmad, Keat and Mahat (2012, 6) explained that during this period, several visits were made by the lecturer to motivate students and to consult both students and entrepreneurs if they face any difficulties. Ferkins and Fleming (2011: 182) outlined that academic supervision include one-on-one time mentoring with academic staff, group supervision in a seminar setting, once-off or regular site visits and distance communication via e-mail, phone or web-based interaction. Despite all the other benefits of work integrated learning the main benefit remains that it

enhances student employability and considering the high cost of higher education today it is becoming increasingly important that students reap the reward of employment to justify higher education studies (Wheeler, 2015: 104). As a university of technology, DUT must engage with local industry so as to support the development of the strategic parts of the economy (DUT Strategic Plan 2015 – 2019: 5). Building capability and capacity within a university to provide an appropriate and engaging range of WIL programmes for students is a difficult and complex process. There are no simple avenues for establishing the culture of change required to build this capability, only avenues that can help and facilitate the process. This is of crucial importance for maintaining the above-mentioned co-operation. Professions wish their members to be technically proficient to be able to work competently with their peers and clients. Consequently, they seek and reward people with a confident ability in displaying these repertoire of skills (Keleher P, Moxham & Shakespeare, n.d.: 1). This is what is desired in Co-operative Education Practitioners. Qualifications in the practical professions need to address fitness for award (what the educational establishment wants), fitness for practice (what the professional body wants), and fitness for purpose (what the employers want). This can be appropriately addressed by programmes that incorporate WIL. One of the difficulties encountered in placing graduate students was the need for supervisors in the employing organizations to have educational qualifications at or beyond the level of the student, thus reducing the pool of possible employers (Rowe, 2011: 333).

According to Adams and Hills (2007: 1), practitioner inquiry within work-based learning focuses on bridging the divide between academia and the employer. They also looked at the consequences of practitioner inquiry on the practice and professional development of lecturers involved in the projects as well as bottleneck in empowerment and limitations in organisational change. Adams and Hills (2007: 1) also pointed out that there is a surprisingly little sense amongst the employees of higher education institutions of the concept of practice based learning. They went on to say that lecturers and teaching staff, in particular, lack an understanding that their own knowledge can be developed not just from academic specialities but also from their own teaching practices.

2.2.6 Marketing and promoting WIL programs

The taking for a positive step in developing partnership with industry, and the further marketing of co-operative education/WIL, as a viable education model, by creating employable graduates who are ready to be absorbed into mainstream employment (Moletsane and Moloi, 2015: 7). DUT is informed by various national policies, plans and strategies, including the Higher Education Act (No. 101 of 1997); the National Development Plan; recommendations of the National Planning Commissions; the White Paper for Post-School Education and Training and the Department of Higher Education and Training (DHET) 2014 – 2019 Enrolment Plan (DUT Strategic Plan 2015 – 2019: 3). Approaches to differentiation (and hence improved competitiveness) must include elements which refer to DUT's core areas of engagement: teaching-learning (the nature of the programmes it offers, the quality of delivery, the support it provides to students, online education, work integrated learning), research (areas of engagement, strategic nature of research, relationships with industry), the quality of its service to students and other beneficiaries of the university (DUT Strategic Plan 2015 – 2019: 4).

Marketing and promoting WIL programs and consequently remaining competitive in a rapidly developing WIL marketplace is the responsibility of each participating institution of higher learning. WIL also improve the following: communication skills, team work, leadership, critical thinking and co-operation (Wheeler, 2015: 104) citing (Kramer & Usher, 2011). Co-operative education units within such institutions choose to employ practitioners who are dedicated to do this kind of marketing and relationship management. Howe and Patrick (2007: 1) pointed out that relationship management has a significant role to play in the marketing of WIL programs and may impact an institution's ability to gain or maintain a competitive advantage. Howe and Patrick (2007: 3) also pointed out that the responsibility of relationship marketing should not be confined to the person responsible for devising the marketing strategy but it should be a shared responsibility with the interactions of all program officers, academic supervisors, students and other university staff who have the passion to engage and maintain the relationship with existing stakeholders and potential stakeholders (future students and industry partners). They also suggested that the quality management of these relationships may also contribute to the program's

competitiveness in the marketplace and subsequent growth. If proper learning support could be given to WIL students, then all programmes would produce better prepared students. According to (Clarke and Llewellynn, 2012: 149) the learning is embedded in the practices and relationship of the workplace and assists in fashioning member identity and meaning.

2.2.7 Skills development

Skills have become the global currency of the 21st century and without proper investment in skills people languish on the margins of society, and technological progress does not translate into economic growth explained by Smit (2015: 55) citing Angel (2012). According to the Department of Labour (2003) it has become an important challenge in South Africa to improve the ability of policy-makers, planners and researchers to identify skills that are in short supply or for which demand exist (Smit, 2015: 56). Moletsane and Moloi (2015: 1) citing Taylor and Govender (2013) agreed with regard to the fact that 50 million people in South Africa, of whom nearly 70% are under the age of 35, a 25.2% official unemployment rate (Statistics SA, 2012), and a National Vision 2030 (2011) to reduce unemployment in SA to 6% by 2030 should send a strong message that education, training and skills development are important (Moletsane and Moloi, 2015: 4). As part of South Africa's national skills development strategy the Skills Development Act No. 97 of 1998 (SDA) was enacted (Botha *et al.*, 2014: 47). Some of the various purposes of the Act are the following as Botha *et al.*, (2014: 47) explained:

- To develop the skills of the South African workforce
- To increase the levels of investment in education and training in the labour market
- To improve the return on investment in training and education
- To use the workforce as an active learning environment
- To provide employees with opportunities to acquire new skills
- To provide opportunities for new entrants to the labour market to gain workplace experience

- To employ persons who find it difficult to be employed.

In many universities, work placement officers, administrators, coordinators or managers coordinate and organize work placement activities. The fact that South Africa's current ranking is 146th out 148 countries in the World Competitiveness Report 2013 in terms of education, reaffirms both the critical role of education and skills development, and the imperative for the country to ensure the rapid and effective delivery of skills and training driven by industry demands within a framework of partnerships (NSDS III, 2011: 4).

Table 2.2.2: Essential skills development techniques

Organizational	Interpersonal
<ul style="list-style-type: none"> • Contracting • recording • structuring sessions • time management • evaluating • assessing • report writing • maintaining boundaries • \using learning contracts and action plans 	<ul style="list-style-type: none"> • negotiation • listening • feedback skills • intervention skills • questioning • motivation • self-awareness • coaching/teaching

Source: Jowett (1995: 18)

This includes assessing workplaces for the suitability, liaising with workplace supervisors, visiting students while they are engaged in a work placement, assessments and generally overseeing as well as supporting students in their work places (CHE, 2011: 62). Jowett (1995: 18) identified essential skills of monitoring through the Leeds Metropolitan University project. These were grouped into organisational and interpersonal skills as indicated above in **Table 2.2.2**.

The general model that is put to use by Universities of Technology (UoT) to the same degree as the Durban University of Technology is that students, before finishing their diploma work, would first be enjoined to take part in a Work Preparedness Skills Workshops which are followed by the continuous action of placements in industry such as selections and interviews or programmes where

Work Integrated Learning can take place as arranged expressly in the Higher Education Qualifications Framework document (Government Gazette, 2007: 9). Milne (2007: 6) stipulated that the main central point of these workshops is to assist students on the following:-

- uttered clearly the knowledge, skills and considerable as a quality that they will be taking to the placement
- presented with clarity and effectiveness the knowledge, skills and regard as produced that they want to develop
- learn skillful use for taking control of their own learning and
- acquire a greater comprehension of their professional accountability while on the placement.

Keating (2012: 90) believes that students gain valuable experience by way of applying their practical learning in the workplace, develop their skills in interacting with fellow workers, customers and management and discover in which direction they would like to steer their careers. While school based learning is important in helping students develop skills for knowledge acquisition and critical thinking, the opportunity for workplace experience should allow them to apply their knowledge to real world situations and develop interpersonal skills such as conflict resolution, communication and networking Drysdale and Mcbeath (2012, 170) citing (Hanneman and Gardner, 2010). Most economies lack adequate information on the skill composition of their population and in many situations, workers may be stuck in jobs where they cannot utilize their skills and many will be working in other capacities, for example, many engineers working as managers (Smit, 2015: 56). The Department of Labour (2003) indicate that skill needs are not only identifiable in relation to occupations, but also in the areas of generic skills and these are skills that are required for individual development and to allow workers to contribute meaningfully to the organisations that they work in (Smit, 2015: 58).

2.2.8 Work-Based Learning (WBL)

The interests of the key stakeholders in work-based learning alter. For example, the individual or student may be search the personal growth, career preferment and portable qualifications. The employer may be questing adequate and believed to be within staff financial means and development opportunities, employee incentive, ability to a wider acquaintance base than continue to be live within the organisation, which taken together may be seen as one way of growing larger strong desire to succeed. For the academic institution, work-based learning may be viewed as a way of keeping in existing and intensifying the quality of its teaching and learning functions, of carrying out its social answerability, and of increasing its market share specifically in the space of continuing vocational and livelihood education (Brennan & Little, 1996: 6).

According to Brennan and Little (1996: 6) **Table 2.2.3** below put out in great extent terms the diversity ways in which work-based learning is at the present time be made part into programmes directing to academic awards within higher education in the United Kingdom. These range from one outermost of short visits to industry, beyond placements, to employment-based learning programmes. The final two class - instantly post-qualifying, and interruption professional development - will in many cases be affected with professional achievement and may not precisely lead to academic credit in the direction of a recognised higher education award, in spite of the fact that in certain professions there are developments occurring while under way to move in this direction (e.g. core competences for senior house officers in the medical profession; credit framework for continuing professional development in the built environment area). They also pointed out that work-based learning may also be taken into consideration in assessing an individual's earlier experiential learning for access to higher education and in ascertaining the suitable stage or level of entry. According to Brown, Butler, Field, Gamble, Kift and Mcnamara (2012: 6) citing Abeysekera (2006) the key characteristics of WIL can be said to be the centrality of an genuine encountering, the integration of university learning and practice, collaboration between universities, industry and students and the award of academic credit.

A distinguishing feature of effective work-placement according to Howe and Patrick (2007: 1) is that they involve partnerships among diverse groups such as employers, students, academic teachers, higher education managers, professional, careers offices and external placement groups. According to Clements and Hays (2012, 2) the conceptualisation of an extended span of influence for universities also suggest a greater stewardship role for the university in working with schools and other institutions to attract and steer youth prior to university matriculation to better prepare them to get the most out of their formal education and early career experience.

These partnerships are built and maintained by Co-op Practitioners. Howe and Patrick (2007: 1) cited Orrell (2004) who supports this when he explains that the importance of relationships in WIL and therefore the management of key stakeholders as being critical to the success of the university. Levy, Oates, Hunt and Dobson (1989: 4) lay down clearly the work-based learning as *linking learning to the work role* and established three inter-related elements each of which provided an important contribution to the learning, viz.:

- structuring learning in the workplace;
- understanding suitable on-job training/learning opportunities;
- providing pertinent off-job learning opportunities.

Three strands have been recognized: learning for work, learning at work and learning through work. Brennan and Little (1996: 5) stated that the aspect that are eminent work-based learning from other operations of learning is the part that mutual discussion between individual, employer and higher education institution plays: negotiation between these three stakeholders in regarding accomplishable learning outcomes which are purposeful and thought-provoking to the individual, are bearing upon to the employer and have academic worthy of trust; installation, through negotiation, suitable methods of and evaluating for, assessment agreeable to all parties; establishing and maintaining, through negotiation, a supportive learning environment (based primarily in the workplace).

Table 2.2.3: Spectrum of experience-led Work-Based Learning (WBL)

ORGANISATIONAL FORM	WHO?	WHERE?	HOW LONG?	OBJECTIVES
Brief Encounter	Students of all subject especially if within Enterprise in Higher Education	(a) Workplace visit (b) Series of "research" encounters	half day to 7 days	Awareness-raising or Career taster
Short Project	Students of all subjects, if general WBL module Creative Arts and Design	(a) Specific assignment in workplace (b) Live brief in studio.	1-7 weeks	Immersion in a real work responsibility under shelter conditions.
Sandwich Placement	Various - Physical and Biological sciences Computing sciences Engineering and Technology Built Environment Business and Administration Languages	A job or quasi job in a potential employment situation.	6-15 months	Introduction to professional responsibility and part-qualification.
Alternating Sequence of placement (Concurrent or Recurrent)	Teaching Nursing Social Work	Between 2 and 10 " novice professional" placements	Up to 50% of course time (e.g. 70 weeks out of 135 weeks)	Professional qualification as a licensed competent practitioner
Employment-Based Learning Programme	Professional employees (or aspiring professionals) in an employer moving to become a learning organisation.		In work most of time: up to 20% release for study	Professional upgrading and personal development linked to employer's needs
Immediately Post-Qualifying	Pre-registration professionals	front line practice under 'wing' of more experienced professionals (e.g. Senior House Officers in medical profession; trainee articulated lawyer)	1 - 2 years (or similar)	Developing professional acumen; problem solving; independent decision making necessary for sound professional judgement and action
Continuing Professional Development	All occupations with a supportive working and/or professional environment	In-company In-training centre In the field In the professional network At home	A sequence of CPD episodes which may continue throughout a career	Specific skill updating; specific knowledge extension and revaluation; critical reflection on technical practice issues; critical reflection on ethical issues; growth through contributing to others' development

Source: Brennan and Little (1996: 6)

2.3 Learner support

Learner support can take various forms (White Paper for Post-School Education and Training, 2013: 17). For an example, in an academic institution, student support services offers academic support in terms of orientations during their first year of study, extra lectures to underperforming students, tutorials and demonstration of practical; social support such as life skills; vocational guidance; assistance for students to obtain workplace placements for practical experience during the course of their studies as well as job placements on conclusion to allow an easier transition from university to the workplace; financial support to disadvantaged students (White Paper for Post-School Education and Training, 2013: 17). Another important type of learner support is mentoring. CHE (2004: 21) states that 'a mentoring system give power the student to realize the strengths and feebleness in his/her work, to establish existing and new abilities, and to obtain knowledge of work practices'. Other employers mention the value of students bringing fresh ideas to their work practices, the opportunity for their staff to practice their mentoring skills, the opportunities to influence curriculum design and even to develop research-based initiatives (Crump & Johnsson, 2001: 291). According to Dunn, Fonseca and Schier (2012: 136) students must be motivated to take upon an analysis of their strength and weaknesses, have the capacity to bring up a learning plan and reproduce on the series of actions that make evident the adequacies that are achieved.

There is a need to increase a student's career literacy while still at the university as this cover a multitude of issues from the life skills to soft skills, from instilling a work ethic to personal initiative (Griesel & Parker, 2009; 20). A particular strength of the WIL experience is the ability to enhance those soft skills that could not be learnt in the classroom environment (Edwards, Martin and Rees, 2012: 24) citing (Fleming, Martin, Hughes and Zinn, 2009). The National Skills Accord's commitment number two, is to make internship and placement opportunities available within workplaces (NSA, n.d.: 2). In general, student support services are often not well-integrated across the academic and administrative function within the various structures of the universities (White Paper for Post-School Education and Training, 2013: 24). There is a need to make available to WIL students the university's learning support

systems, information and communication technology services, counselling services and other ancillary supports while they are on placement, as an integral part of curriculum design (CHE, 2011: 62).

The Department of Higher Education and Training Minister Dr Blade Nzimande, when he released the Green Paper for Post-School Education and Training, stated in the executive summary, referring to Further Education and Training (FET) colleges, that *'Improving the quality of these colleges would entail upgrading lecturer qualifications, capacity building for management and governance, improved learner support and building strong partnerships between colleges and employers in both the public and private sectors'* (Masombuka, 2012: 5). Many universities do not see student support services as part of their core role (Green Paper for Post-School Education and Training, 2012: 11). This study is investigating the human resource capacity needs to lend such learner support. The University of Waikato in New Zealand employs a placement co-ordinator who has a post graduate qualification in the field (allowing a better understanding of career possibility and content knowledge required by the students) to interact with the students during the pre-placement and post-placement stages (Laslett & Zegwaard, 2011: 105). These co-ordinators also interact with the students in terms of the in-depth one-to-one interview, placement selection and interview stage. According to Laslett and Zegwaard (2011: 105), the in-depth interviews are a crucial part of the placement progress as this establishes a deeper relationship with the co-ordinator and the student, and a better understanding of the strengths and weaknesses as well as character and personality traits. This is partly the support of learners that is investigated in this study. In addition to this, this study argues that these co-ordinators must be trained to perform these tasks as such responsibilities do not come naturally.

Forbes (2007: 5) displayed a table from Meyer (1999: 327) that lays out that the main purpose of the job of what they called Learner Support Practitioner (LSP) is to perform a professional role in the work integrated learning process a link between workplaces, students and academic institutions. The skills and competencies that are required are problem solving, good communication, planning and organisation, listening and conflict management, decision making as well as negotiating skills as shown in **Table 2.3.1**.

Table 2.3.1: Job Description of a Learner Support Practitioner (LSP)

A	Job Title: Learner Support Practitioner (LSP) for work integrated programmes		
B	Main Purpose of the Job: To perform a professional role in the work integrated learning process a link between workplaces, students and academic institutions		
C	Some of the Key Performance Areas		
Relative to students <ul style="list-style-type: none"> • Develops relevant co-operative education material. • Provides students with guidelines regarding the co-operative education process and procedures. • Helps students set appropriate goals responsive to their particular needs. • Encourages and motivates students. • Conducts group orientation sessions. 			Relative to employers <ul style="list-style-type: none"> • Establishes effective communication links between new student employers and the institution. • Assists new student employers in developing and operating the co-operative education programme. • Maintains effective communication links between existing student employers and the institution. • Responds to employer enquiries regarding the co-operative education programme.
			Relative to the institution <ul style="list-style-type: none"> • Encourages ideas to improve the functioning of the co-operative education programme. • Serves as a campus expert in the field of co-operative education. • Continuous reinforces the educational significance of co-operative education. Relative to Administration <ul style="list-style-type: none"> • Develops and maintains a database of student and employer information.
Minimum Qualification <ul style="list-style-type: none"> • Degree (four year tertiary) 			Experience Required <ul style="list-style-type: none"> • Experience in the career field • Lecturing experience • Counselling experience • Marketing experience • Public relations experience
			Skills and Competencies <ul style="list-style-type: none"> • problem solving skills • good communication skills • planning and organisation skills • listening and conflict management skills • decision making skills • negotiating skills

Source: Forbes (2007: 5)

2.3.1 Conceptual framework for WIL

While WIL has been implemented for many years in the higher education system of South Africa, a single, agreed policy framework for all levels of the system has been absent (Ori, 2014: v). The combination of theoretical aspects of learning (academic learning) and the application to work situations WIL is an integrated learning mechanism that facilitates the identifications and utilisation of embedded knowledge (Moletsane and Moloi, 2015: 3). In most cases the learner in the workplace is undertaking a productive work role (and at the same time attempting to place the learning received from the workplace experiences into a broad context), the learner on-campus is essentially there to learn. Brennan and Little (1996: 83) explained that the functioning and durable learning takes place when learners experience a balance of challenge and support, bringing together of ideas and eagerness. Copper (2011: 245) pointed out that support begins before the student begins their learning and continues through a placement and if necessary after the learning is completed. They further explained that support takes many different forms, from administrative assistance (which includes assisting with accommodation, explaining learning requirements, linking students to resources necessary to complete placements and completing any policy requirements needed before working in a variety of workplaces) to educational support (which includes preparing students for both their placements and their learning, and working collaboratively with students and supervisors to resolve any difficulties that may arise though out the placement. Campbell and Zegwaard (2011: 366) cited Garavan and Murphy (2001) who concluded that a student engaging in Co-operative Education/WIL experience moves through three phases of socialization in the workplace, which are, as follows:

- the process of getting-in (i.e. recruitment and job preparation)
- the process of getting-in (i.e. orientation and establishing relationships)
- the process of settling-in (i.e. personal change and value acceptance)

2.3.1.1 Learner support in higher education institutions

Recently, a renewed interest and on the benefits of WIL for students, institutions and workplaces became evident (Ori, 2014: v). Communications between institutions and the industry is of vital importance to support and distribute new design drawing techniques, new innovative ideas and share knowledge with students and staff alike (Cilliers and Smit, 2015: 22). It is the case that for the greater part of students in higher education institutions direction and support for learning should be in a fair manner readily suitable, be it through opportunities to discuss learning substance in tutorials and seminars, group work with other students or informal debate with personal teachers (Brennan & Little, 1996: 78). According to (Clarke and Llewellynn, 2012: 149) citing (Lave, 1993) in relation to this research, the tertiary context, the academics' world of work provides an authentic and valuable site for work-based learning and ensuring the learning opportunities are intentionally planned, well designed and effectively supported will contribute to the quality of what takes place in the workplace. For example, in the United Kingdom, the Higher Education Quality Council's indication for guidance and learner support outline a skeletal structure for policy covering a number of spaces including admission and initiation adjustment, academic tutorial support, remedial support, pastoral and welfare support, career information and guidance (Brennan & Little, 1996: 78) citing the Higher Education Quality Council (1995). According to Brennan and Little (1996: 79), to support experience-led work-based learning, institutions and employer partners may be searching to put in place a team of people who between them can make available opportunities for the variety of interference which are seen as necessary to strengthen learning from experience, and which build on support the linkage that might already exist in the workplace. The team tends to comprise an academic tutor (or tutors), a workplace mentor (sometimes called tutor in the workplace), other learners, and finally a supportive employer. Jacobs (2015: 42) citing Forbes (2006) urges higher education institutions to ensure that WIL forms part of and is integral to the exit-level outcomes of the qualifications and emphasises the need to determined that workplace learning is structured, planned, monitored and assessed at the correct NQF level to ensure integration with the curriculum outcomes of the entire qualification.

2.3.1.2 Learner support in the workplace

This interest that was discussed in subsection above seems to stem from the world-wide economic downturn which affects South Africa and the region in many ways, not least in terms of low competitiveness of local and regional commerce and industry, but also from the call of employers that their future workforce should be better prepared for modern workplaces (Ori, S. 2014: v). Consciousness and sensation are disregarded in our society, but they are key pointers to both possibilities for, and obstacle to, learning (Brennan & Little, 1996: 43). Mackaway, Rowe and Winchester-Seeto (2012: 118) believe that in certain situations, emotional support may also be required, and involves assisting students to alleviate feelings of stress, anxiety and inadequacy (as cited from Beck and Kosnik, 2002; Chow and Suen, 2001; Hall et al., 2008; Jackson and Mannix, 2001) and debriefing after critical incidents or distressing situations (as cited from Pungur, 2007; Williams, 2009). Thus, learners in a workplace need suitable support, hope and justify from others: emotional support, practical support and political support (to challenge the assumption of others, and to be challenged). Dressler and Keeling (2011: 264) reported citing (Eakins, 2000) that students have identified programmatic components as factors that contribute to their satisfaction and learning as follows:

- supportive relationships with supervisors, mentors and colleagues,
- work that seemed legitimate, real and provided opportunity for growth,
- challenging tasks for which the student can take responsibility and see that they are contributing to the organization,
- dynamic, relevant, and independent learning
- a negotiated curriculum for each student and their workplace, such as a series of learning contracts developed by the student and the supervisor and

- identifying projects that support the posing and solution of workplace problems, with review and reflection occurring regularly.

Hoskyn and Martin (2011: 176) stated that the role of the workplace supervisor is more important (especially where there is large numbers of students) as is the need to brief them to ensure that they are receiving appropriate workplace support. Fifolt and Searby (2009: 55) highlighted that the lack of an appropriate support system may be especially detrimental for underrepresented minorities who (a) place primary value on people and groups over grades and status (as cited from Seymour and Hewitt, 1997), (b) lack familial and societal role models (as cited from Gardella, Candales and Ricardo-Rivera, 2004).

Brennan and Little (1996: 80) cited Gillham (1995) who identified seven separate stakeholders in the placement process as indicated in **Figure 2.3.1**. In his context, the link tutor takes up a role of a Co-op Practitioner in the case of this investigation. The link tutor must be conscious of and take charge suitably these different points of view in a spirit of partnership. Some of these points of vision may well develop in negotiations about learning contracts and strategies for assessment, and the link tutor may have to work as an "empathetic go-between, seeking to relate and rationalise two systems (of academia, and of commercially oriented work) which may, in extreme cases, reflect very different values and interests" (Brennan & Little, 1996: 80).

According to Brennan and Little (1996: 80) the roles identified include providing support for the host organisation, operating as a negotiator, working as an innovator, and designed as a facilitator, in uniting to more traditional roles of assessor, and pastoral guide. The separate roles and tasks are listed in **Appendix M**. Ashworth and Saxton also identified the seven workplace supervisor types: mothering; negotiating; goading; establishing; neglecting; protecting; encouraging (Ashworth & Saxton, cited in Davies, 1990: 88). Brennan and Little (1996: 89) cited Little and Nixon (1995) that their briefing paper also do identify that workplace supervisor input to learner support is important since only such supervisors are in close and continuous contact with learners during the period of work-based learning. The Leeds Metropolitan University in the United Kingdom funded development work

attention in particular on a model for mentoring that "supported university students' learning in the workplace" (Jowett, 1995: 3). The project team found that in most cases learners were supported in the workplace by a workplace supervisor, and most workplace supervisors undertook some (if not all) of the following activities: supporting and encouraging, guiding and advising, appraising, role modelling, supervising, directing, reflecting, challenging and confronting, educating (providing knowledge), criticising, counselling, coaching (developing skills), generating ideas.

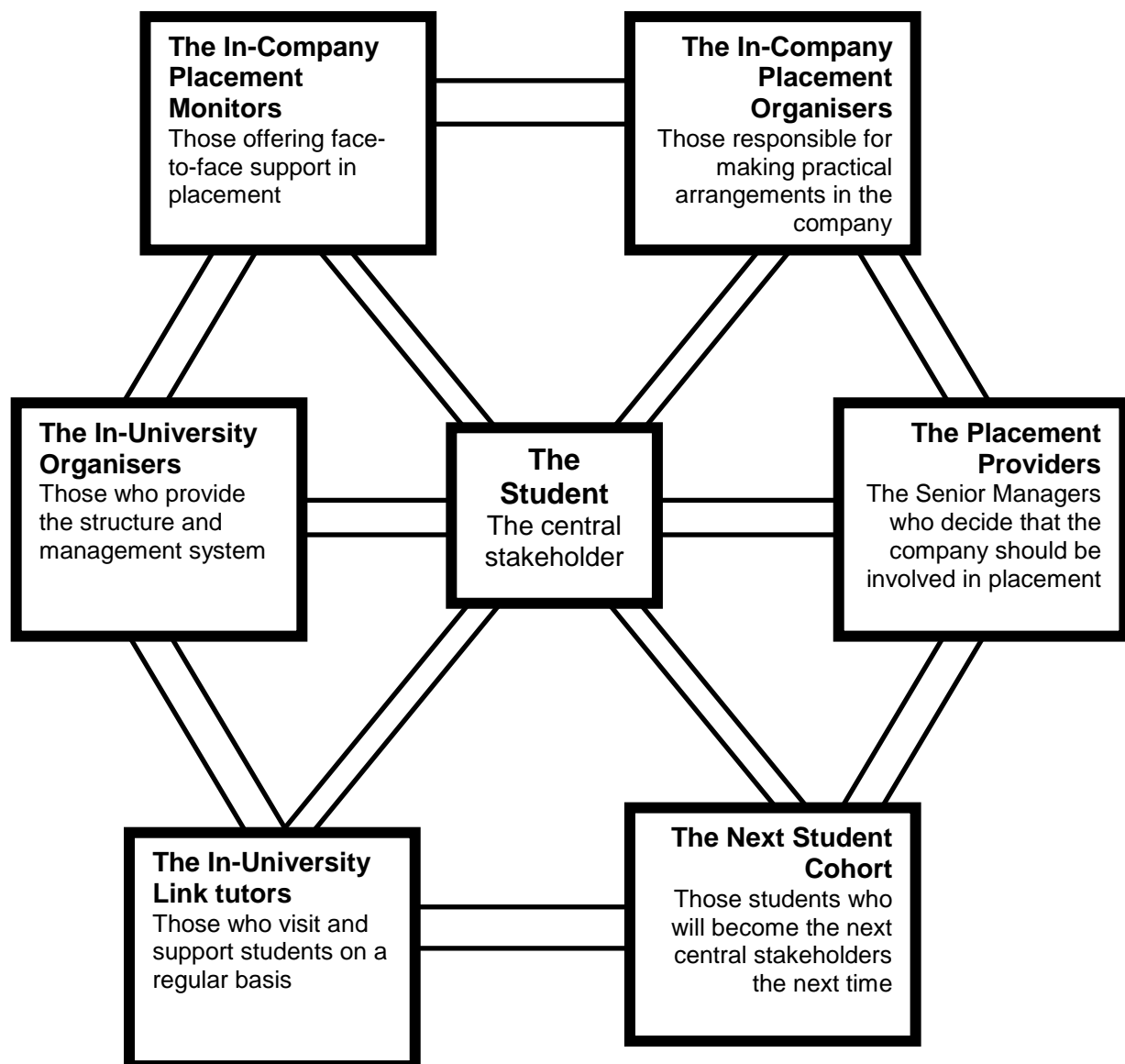


Figure 2.3.1: Stakeholding in work placements

Source: Adapted by Brennan and Little (1996: 80) cited from (Gillham, 1995).

According to Brennan and Little (1996: 91) more lately completed progress for projects have finished that support for learning within a work-based learning context is essential: mentoring is one way (along with others) of providing this support.

Table 2.3.2 below adapted from Bowden, Cooper, and Orrell (2011) cited in Copper (2011: 246) outlines some of types of support provided in Co-operative Education for social work students. As it was mentioned earlier that mentoring is one way of understanding support for learners in the workplace.

It would be very interesting to look more closely at the process of student/peer/learner support. Brennan and Little (1996: 91) also explained that within work-based learning, there seems to be less reports of student supported learning, where reported, learner support groups seem to be particularly beneficial for those programmes in which learners are primarily based in the workplace (rather than following a campus-based programme which incorporates blocks of placement in the workplace). They further pointed out that learners on campus often are able to support each other, the need for learner self-support groups is even greater away from campus. This is what Chiupka *et al.*, (2011: 17) termed as co-operative learning which they explained that it is similar to collaborative group work. This occurs when each student in a particular group 'strives for a learning outcome that will be beneficial to all members of the group (Schmuck & Schmuck, 2001: 40).

Table 2.3.2: Support for students and agencies for social work Co-operative Education

Support	Before learning experience	During learning experience	After learning experience
Student	1.Explanation of professional expectations, learning outcomes, institutional protocols 2.Preparation of resume for workplaces 3.Outline and negotiate accommodation for students with disabilities 4.Provide support and advice for students with difficulties with police clearances 5.Prepare students for supervision and learning in diverse workplaces 6.Discussion of professional career aspirations 7.Interviewing skills and their development as well as work literacy skills	1.Assist students to make sense of learning experiences 2. Assist students to deal with tensions, difficulties, and health issues 3.Help resolve difficulties between students and practitioners in the workplace 4.Ensure that students are able to achieve their learning goals 5.Guide and support students in understanding ethical behaviour 6.Support the integration of theory and practice	1.Enable students as they reflect on their learning experience 2.Manage positive and negative feelings associated with learning 3.Evaluate with the student the learning experience for future students 4.Encourage students to use their experiences in subsequent employment and future learning experiences 5.Provide access to complaint and appeal processes
Workplace	1.Prepare agency for students by providing relevant information about academic policies and procedures 2.Inform supervisors about current theory used in teaching 3.Provide guidelines for orientation programmes for agency 4.Prepare organizations for students from diverse backgrounds 5.Develop and lead educational sessions on clinical supervision for agency supervisors	1.Manage contract and learning 2.Help workplaces work with students from diverse backgrounds to maximize learning (international) 3.Assist supervisors in maximizing student learning 4.Actively support supervisors in problem solving difficult situations and act as a sounding board as appropriate 5.Connect supervisors through educational sessions to other supervisors doing similar tasks	1.Debrief workplace supervisors and key agency panel 2.Provide on-going support for any difficulties that may have arisen in the course of the placement or as a result of student learning 3.Encourage evaluation of student workplace experience 4.Prepare workplace for the next group of students

Source: Bowden, Cooper and Orrell (2011) cited in Copper (2011: 246)

2.3.1.3 Learner support system at DUT

The learner support system offered at DUT is shown in **Figure 2.3.2**. As part of their introduction to the Work Integrated Learning component of their studies, students would be orientated and be made aware of the relevant university policies and it is always important to invite a guest from industry who would be invited to speak to them about industry expectations. It is not uncommon for students to report nervousness at the outset of experiential learning. Therefore, in some cases, students would undertake industry visits and excursions. The development of the soft skills is more difficult if a student is not fully integrated in the organisation (Hoskyn & Martin, 2011: 175). This is part of the work preparedness, it is also supported by workshops that are facilitated by industry or/and the relevant experts in which a student is taught skills such as curriculum vitae writing, handling interviews as well as work ethics to name a few. Co-op Practitioners are required to market students and programmes that are offered at DUT when they are canvassing for workplaces. In South African higher education institutions, students are assisted to find experiential learning by their lecturers, supported by university Co-operative Education Units (Taylor, 2011: 357). As a quality measure, the workplaces that were successfully secured, are first approved to ensure that they do meet the requirements of training WIL students. This is also to ensure that the students, at the end of the training period, will be able to achieve the outcomes that are stipulated in the training manuals. Thereafter, placement of students takes place, which will allow them to register at the University, followed by the monitoring of their progress and then evaluations. The Co-operative Education or WIL programme are functioning as a training ground for students to develop these skill sets (Drysdale and Mcbeath, 2012: 169) citing (Freudenberg, Brimbel and Cameron, 2011).

Moreover, the responsibilities of the Co-op Practitioners are to act as counsellors, role models, leaders, motivators, guiders, advisors, marketers as well as public relations practitioners. Laslett and Zegwaard (2011: 105) also explained that at the University of Waikato, the placement co-ordinator remains in contact with the student during placement by visiting at least once to ensure placement progression and for pastoral oversight. They further explained that during the visit, students are queried on their learning progress, tasks undertaken, development of their understanding,

and progress of their placement reports. If any problems have arisen, they are discussed and resolved.

Learner Support System

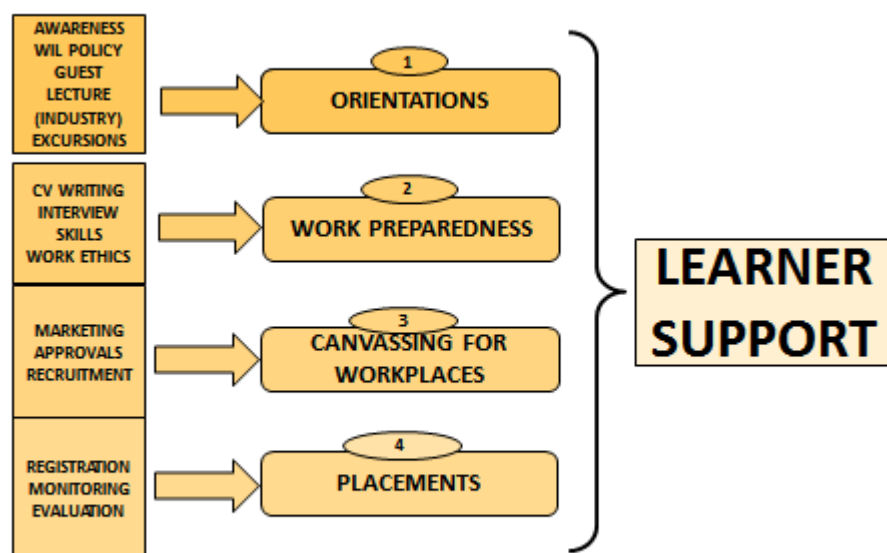


Figure 2.3.2: Learner support system at DUT

Source: Adapted by Themba Msukwini for the submission to *Asia-Pacific Journal of Cooperative Education* (**Annexure 4** - APJCE M296).

The other important engagement that a placement co-ordinator from University of Waikato in New Zealand does, is to meet with the employer to discuss progress, gauge the student's performance, establish better university/industry links and allow the employer to complete a simplified work performance evaluation form at the end of the placement.

Higher education institutions are criticized because they do not offer adequate soft skills, generic skills that one need to learn across any walk of life (Kruss, 2004: 682). In recent years, some UoTs in South Africa are attempting to address this concern by introducing Work Preparedness programmes and workshops. The CHE (2011: 4) notes that 'these capabilities are just as necessary for General Education as they are for career-focused education'. To develop their capabilities and experience, students in many disciplines participate in placements, in which they operate in

authentic work settings (Keele, Moss, Sturre, and Von Treuer, 2012: 65). The Durban University of Technology is in the process of incorporating General Education in its curriculum. Work Preparedness will be taught as part of the topics in General Education, more important, it will bear an academic credit. Laslett and Zegwaard (2011: 106) discussed a pre-placement paper called Preparation for the Professional Workplace that is taken by students in the University of Waikato prior to the first placement. They further explained that this paper takes students through a series of interactive workshops which focuses on professional CV preparation, interview technique, report writing, setting learning objectives for a placement, and through a series of lectures that focuses on professional behaviours, commercial confidentiality, health and safety, and introduces the concept of reflective learning.

There is a considerable amount of literature that is documented on the partnership of student, workplace and academic institution in Co-operative Education such as World Association for Co-operative Education (WACE). Hoskyn and Martin (2011: 175) explained that partnerships and schemes are developing to assist facilitate the bringing together of the three parties for work placement. At DUT the programmes that are offered especially in the Faculties of Engineering and the Built Environment, Applied Sciences, Arts, Health Sciences as well as Management Sciences have a mandatory WIL programme in which students are required to participate in experiential learning as part of their academic programme. The strength of this mandatory programme is that all students are given equal opportunity to benefit from the WIL experience. The challenge is to place all students in suitable work sites. Hoskyn and Martin (2011: 176) pointed out that there are many models for placing students. These models fall into three general types:

- the academic institution finds the placements and matches them with students,
- the academic institution provides information about placements notified to them and students apply and

- self-placement where students find their own placements and obtain an approval based on criteria.

They further explained that difficulties can arise for students who are already working fulltime and studying part time if their work does not meet the criteria for placement.

The Durban University of Technology implements the first model. However, it is important to note that after the placement opportunity has been secured by DUT the recruitment process of WIL students is handled by employers. This is conducted in such a way that it resembles a real life situation such that after the university has found a placement and approved it against the criteria, a curriculum vitae based selection would initiate the process, followed by interviews and the placement of the best candidate. It is believed that this in itself is part of training for work readiness.

Some pockets of DUT students do take an initiative to find their own placements. Self-placement is also allowed if and only if the work site meets the outcome-based criteria for placements. According to Ferkins and Fleming (2011: 184) students being largely responsible for finding their own placements can result in placements with organizations that staff from the university has not had a previous relationship with. They elaborated that not only this does raise the profile of the university, but it also adds the benefit of connecting people in industry, back to the university. According to Brennan and Little (1996: 176) the supporting skills of an effective mentor will seek to:

- provide counselling for students as and when appropriate;
- facilitate professional development opportunities and provide these opportunities whenever possible.
- act as a frequent discussant, listening, responding, probing and encouraging the student;
- work collaboratively with the student in a variety of ways;
- encourage reflection by the systematic debriefing of important activities;

- provide regular, sympathetic and positive feedback on all aspects of the student's performance.

2.3.1.4 Towards a policy framework for WIL in Southern Africa

This is the summary of a policy framework for WIL in Southern Africa from The African Journal for Work-Based Learning developed by the Southern African Society for Co-operative Education (SASCE). The framework will therefore deal with substantive issues and will leave the nuanced implementation procedures to implementing institutions, which will tweak the principles according to their own needs (Blom, 2014: 1). While many institutions already have policies in respect of WIL or related practices, it is hoped that institutions will align their institutional policies to an agreed national policy (Blom, 2014: 2).

- For students – WIL greatly enhances learning including inter-disciplinary thinking, the integration of knowledge, skills and competencies; the retention of learning; and the application of subject knowledge.
- For institutions – WIL enhances the reputation of the institutions responsiveness to industry needs arise from close linkages and partnerships between institutions and employers.
- For employers – WIL is essential in improving the skills base of the country to the benefit of education, training, commerce and industry.
- For communities – some forms of work experience such as service learning can benefit both students in terms of attaining marketable skills as well as the communities where students are placed for service.
- For government – government is one of the largest employers in the country and WIL opportunities are varied and many.

- For the economy – enhancing the employability of young entrants to the workplace, the economy benefits from more productive and work-ready applicants (Blom, 2014: 3 – 4).

2.3.2 Training for facilitators of learner support

In South Africa, several accords have been established between the education and economic sectors, not least the accord that commits employers to ‘make every workplace a training space’ – The slogan of the South African Minister of Higher Education and Training, Dr Blade Nzimande (Ori, 2013: vi). The mining industry in South Africa in the 1950s adopted a co-operative education sandwich model for the training of sufficient supervisory employees (Chiupka *et al.*, 2011: 21). This model, documented by Groenewald (1988) as cited in Chiupka *et al.*, (2011: 21) remained in use, with only minor adjustments, for more than for decades. It has been superseded by the South African skill development strategy, the learnership model.

According to Brennan and Little (1996: 87), training alters from one day the beginning of briefing sessions (either on a one to one basis or in a group), a series of workshops are supported over an academic year, through to formally confirmed (by an academic institution) open learning programmes lasting six months. They further explained that such process of varying may reflect to some rate of the working practices of the organisation in which work-based learning is taking place and the status agreeable to the mentoring function. Mackaway, Rowe and Winchester-Seeto (2012: 118) highlighted that the supervisor is involve to providing access to real life learning opportunities or helping students construct knowledge through talking and reflecting on practice (as cited from Fairbanks et al., 2000; Sim, 2010) or actually providing training for specific workplace skills (as cited from Klink and Athaide, 2004). Furthermore, Bhatia and Cooney (2006: 99) assert that the starting points for training needs analysis are the business objectives of the organisation, including work activities that are to be undertaken, as well as the levels of skilled competencies in those activities that are to be achieved. Mackaway, Rowe and Winchester-Seeto (2012: 117) highlighted that the support involves being available for the student (as cited from Drennan, 2002; McNamara, 2007; Rothman, 2007),

making time for regular meetings, and cultivating a sense of belonging to the workplace (as cited from Clarke, Gibb and Ramprogus, 2003; Dunn and Hansford, 1997; Jackson and Mannix, 2001).

2.3.3 Mentoring

The WIL co-ordinator also acts as a mentor and tutor for students during their time spent on- and off- campus (Cilliers and Smit, 2015: 31). In the United Kingdom, Brennan and Little (1996: 88) cited the Quality Support Centre Guidelines adapted from (QSC, 1995b) that suggested three broad levels of initial mentor training and continuing development or network support, ranging from:

A: befriending and coaching mentors with relatively light obligations to student, employer and higher education institution whereby the basic obligatory to make sure that volunteer mentors comprehend their role and the anticipation on the learner would involve a briefing meeting, reading of a thorough, well-presented guide to mentoring for the particular programme of study they are involved in, and a mid-term follow up meeting;

B: longer-term mentors offering coaching, career guidance and supervision, perhaps with some call on counselling skills whereby groups of mentors might follow a self study text for mentors, completing exercises and sharing experiences over a series of meetings. Such liveliness might be stretched out through (say) deepening their examination of certain key skills, or by moving into more subject specific training;

C: specialist mentors combining roles including supervision and/or assessment as well as counselling contributions whereby specialist training (probably through the fact of taking part on a course leading to an award) would be needed.

Jacobsz and Wessels (2012: 2) made a statement that company supervisors need to know an advantage of Co-operative Education, what the legal implications are of a

student injured at the workplace, what stipend is to be paid to students during training at the workplace, and other relevant issues of concern. Also, the uncovering of academic staff to industry contributes to 'partnership' and relationships which is beneficial to all role players as explained by Jacobsz and Wessels (2012: 6) who further alluded to the fact that staff from HEIs with a career-focused educational mandate, such as UoT, should stay side by side to the needs and opportunities in the corporate sector.

2.4 Management and control of WIL

The management of WIL at universities varies according to the nature and type of institution. Simpson and Swirski (2012: 239) citing Orrell warranted that university leadership and management have major responsibilities to ensure that university governance account for resource, policies and infrastructure to support students, staff, industry partners and the diverse WIL contexts of social justice, cultural diversity, technological advancement and uptake, internationalisation and professional accreditation commitments. The management of WIL includes the management of financial, human and physical resources (CHE, 2011: 63). In South African higher education, a distinction is made primarily between the traditional, comprehensive and technological university sector explained by Wessels (2014: 4). The implementation issues of WIL, the monitoring of progress, the assessment of work and the evaluation of the programme are all part of the management of WIL in South African universities (Cilliers and Smit 2014: 22). Cilliers and Smit (2014: 27) explained that the placement aspect in all universities is controlled by the WIL co-ordinator in the department. National Strategy on Work Integrated Learning in University Education (2015: 2) in Australia highlighted that WIL facilitates the transition between preparation for and operation in a high skills work environment. It empowers students to understand, adapt to and apply skills in the workplace. According to Brown, Butler, Field, Gamble, Kift and Mcnamara (2012: 9) in a placement situation where the experiential component of WIL is not controlled by the university, it may be particularly difficult to ensure there is an application of the integrated knowledge skills and capabilities that have been learnt throughout the degree.

2.4.1 Management of WIL at an international level

The collaborations between the education institutions with government and industry to provide enhanced capabilities is imperative because long-term shifts in global trade and investment are reshaping the world economy and international politics (Moletsane and Moloi, 2015: 1). There is increasing emphasis on work-integrated learning (WIL) or work-based experiential learning within tertiary organizations in New Zealand and Australia to enhance graduates employability (Edwards, Martin and Rees, 2012: 23) citing (Freudenberg, Brimble and Cameron, 2009; Newcastle University, Australia, 2008; Orrell, 2011). Da Costa (2014: 38) citing Eraut (1994) states that 'learning happens on daily basis, almost from birth, but much of what is learned through life is likely to be restricted to facts and skills learned in school , college, or training courses in a company'. On the other hand, Da Costa (2014: 38) warns that many companies in Mozambique neglect to make room for workplace learning in the form of an arrangement that would allow the acquisition of coded type of knowledge and skills that their workforce lacks. Learning opportunities vary strongly among apprentices and workplaces due to a combination of structural, cultural and pedagogical factors explained by Da Costa (2014: 38) citing Onstenk (2013).

A study done in Australia on knowledge management students it was found the despite the potential opportunity of employment imbedded in the WIL programme a portion of students decide to go back to university to complete further studies, suggesting that the work placements experience may have influence their decision (Wheeler, 2015: 105) citing (Ley, Lindstaedt & Albert, 2005). Australia Higher Education Sector, with lately happening research indicating that students who have assume the duty of attending to a work-integrated learning experience or skill development during their studies were more likely to have accomplished employment within their chosen field (Dunn, Fonseca and Schier, 2012: 138) citing Orrell (2004). Dunn, Fonseca and Schier (2012: 137) citing Australian Universities Quality Agency (2006) warranted that academic units are responsible for the development and management of industry-based learning (IBL) programme in each discipline. Also, within the academic units, IBL co-ordinators lead, manage and administer the placements on behalf of their respective units. Also, the Australian

higher education sector needs to show that their degrees generate work-ready graduates and meet the professionalised workforce requirements with WIL touted as a solution (Bok, Evan and Levin, 2010: 2) citing (Patrick, Peach, Pocknee, Webb, Fletcher & Pretto, 2008).

According to the National Strategy on Work Integrated Learning in University Education (2015: 1) in Australia enterprises, educators and the community, working together, improve the quality and capacity of our education systems and the innovation, breadth and competitiveness of our economy. These linkages are crucial if we are to succeed in meeting the challenges and opportunities presented by rapidly changing global realities. Furthermore, the National Strategy on Work Integrated Learning in University Education (2015: 2) in Australia for students, WIL experiences such as placements and work-oriented projects, where industry and community partners contextualise education, can make a real difference to their skills and capacity.

There has been a dramatic increase in the number of Canadian students from all social, cultural, and economic backgrounds attending post-secondary institutions in recent years highlighted by Drysdale and Mcbeath (2012: 169) citing Statistics Canada (2007). Furthermore, as fewer students enter the workforce directly after high school, it has become more and more important for college and university programmes to help students prepare for the labour market explained by Drysdale and Mcbeath (2012: 169) citing Walters and Zarifa (2008).

In Nigerian Higher Education Institutions (HEIs), an approach called Student Industrial Work Experience Scheme (SIWES) was introduced in 1973. This was done for specific objectives such as to provide opportunities for students of HEIs to acquire industrial skills and experience in their course of study; to prepare students for the industrial work situation they are to meet after graduation; and to expose students to work methods and techniques in handling equipment and machinery that may not be available in their institutions (Fasola & Olawumi, 2007: 1). Also, according to Fasola and Olawumi (2007: 2), SIWES contributed immensely to the quality of graduates produced by HEIs in Nigeria.

At the University of Surrey, United Kingdom, undergraduate students in all subjects have the opportunity to undertake a one year period of paid professional placement, usually between second and final year of a degree programme, as a result of this experience, the university leads the fields in graduate employment (Willis, 2010: 1). The Swinburne University of Technology in Australia is supervised in each discipline, establish and monitor the learning outcomes of each placement (Dunn, Fonseca and Schier, 2012: 137).

In the United Kingdom, the early drafts of the Quality Support Centre signposts guide for link tutors had also noted that placement systems inclined to reflect a divided culture in which work-based learning was held lower in place to academic learning. It was conjecture that such separation may have had much to do with the hesitancies and unusual which many academics felt when exposed to a work-based context they may have left many years before (or never been part of). However, moves towards more egalitarian and partnership-based schemes for work-based learning would suggest that such distinct separations could not continue (Brennan & Little, 1996: 79) citing the Quality Support Centre (1995).

Employability in China like the Australia Government, China's Ministry of Education (MoE) also monitors the employability of graduates and the Higher Education Law of the People's Republic of China (1998) stresses that graduates have "basic skills, techniques and related know-how necessary for practical work (Woodley, 2010: 4). Baden-Wuerttemberg, Cates, Jones, Lechleiter and Peach (2009: 100) citing Philips (1978) highlighted that a study by Georgia Organization of Southern Bell found that graduates who undertake work related programmes are better prepared to assume future management responsibilities.

2.4.2 Management of WIL at a national/institutional level

Academics are expected to fulfil multiple roles with little reward for participation in WIL programs: indeed such activities are seen as career limiting as they are not deemed to be scholarly (Bok, Evan and Levin, 2010: 2) citing (Patrick et al, 2009). According to Cilliers and Smit (2014: 26) although the institutions teach real-life

problem-solving projects, it is still a priority for the industry to refine the talent, provide extra finishing and emphasise details that cohere to a real project. Currently, WIL is managed differently by different institutions, and also among different universities of technology, both nationally and internationally explained by Wessels (2014: 4). Cooperative Education at the Tshwane University Of Technology (TUT) is managed by means of a centralised and decentralised (hybrid) management model reported by Wessels (2014: 3). It was found that the outcomes specified in the work-integrated learning quality assurance process were not being adequately achieved, particularly as it relates to student preparation, placement, monitoring (visits), assessment and debriefing targets in TUT explained by Wessels (2014: 3). Furthermore, funding reports at the university revealed that funding for WIL was not adequately used by departments to support students at the workplace reported by Wessels (2014: 4).

Vaal University of Technology (VUT) is a learning institution. Although all the institutions have a WIL component, each institution manages the WIL component in the programme in a different manner (Cilliers and Smit, 2014: 27). For instance, VUT believes it can accelerate expansion, goal attainment and the championing of new innovations as follows: Strong partnership development; Sustainability of the current partnership; Market of WIL and funding of WIL explained by Moletsane (2014: 2). The WIL feedback day, where students are offered an opportunity and a platform to submit their report and projects and present them to their mentors and the WIL Coordinators from VUT reported by Moletsane (2014: 2). Koch (2012: 2) alluded to the fact that the work integrated learning implies that students should be involved in meaningful performances, tasks and learning areas which are set out clearly by the UoT.

Evidence from the graduate survey at the Central University of Technology, Free State confirmed the employability of students in the hospitality management programme as having achieved an employment rate of 85% (Jacobs, 2015: 41). Furthermore, according to Jacobs (2015: 41) the strategic transformation of education processes and systems project concluded at Central University of Technology, Free State during 2012 indicated a direct link between WIL and the enhancement of employability.

2.4.3 Management of WIL at DUT programme level

The process of WIL placements takes place by following the learning cycle that was designed by Brian Forbes from the Southern African Society for Co-operative Education (SASCE) shown in **Figure 2.4.1** below as part of his unpublished work. Work preparation is followed by the actual placement as mentioned earlier on. It should be noted that according to the DUT practice which is also supported by the Higher Education Quality Committee (HEQC), a workplace approval must be conducted at a work site before a student is placed in order to ensure that training requirements are met as stipulated in the student training manual. The work learning programme is structured in such a way that a student performs productive work. For instance in some disciplines, especially in Science and Engineering, a student would be required to undertake an investigation that would benefit the host organization. It should also be added here that each student that undertakes WIL at DUT is required to be formally registered with the university while at work. Registration of WIL students offers a variety of protections for both the student and the employer, for instance, registered students are covered by insurance.

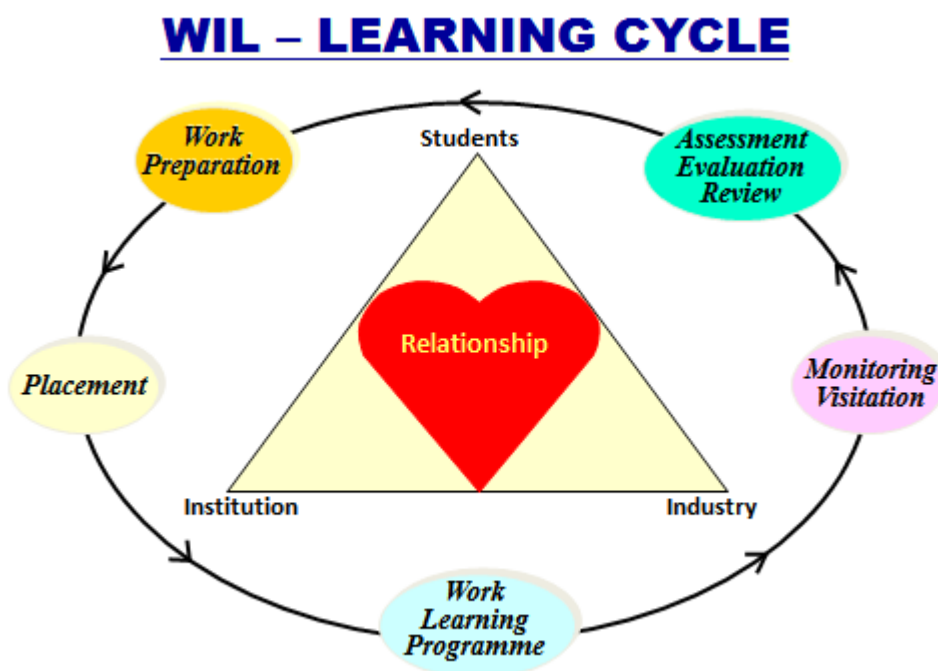


Figure 2.4.1: Learning Cycle of WIL

Source: Adopted by Brian Forbes, SASCE, 2008.

Co-op Practitioners are expected to support such WIL students by continuous visitations to ensure that they are registered, monitor the progress and make an input to their work. Hoskyn and Martin (2011: 176) explained that such monitoring and supervision is inherently quite intensive in order to provide students with appropriate mentoring and development of reflective skills. At the end of the training period or (in some cases this is done throughout the training) the student's work is evaluated and assessed. In some programmes, a debriefing session is hosted to discuss the success and the shortcomings of this practice. Campbell and Zegwaard (2011: 363) reported that the role of Co-operative Education and Work Integrated Learning requires support in the form of academic programmes of study, and within work placement briefing and debriefing practices to equip students with a critical sense of mind, desire, and capacity to develop an ethical professional identity. Edwards, Martin and Rees (2012: 24) highlighted that the specific components which, when melded together, enhance the WIL tripartite partnership of employer, academic staff and student.

It should also be noted that the programmes offered at DUT do not have an optional component of WIL. WIL is either incorporated in a particular programme or in some programmes it is not part of the requirement. Some of the programmes, especially in the Faculty of Accounting and Informatics, that do not have WIL are working towards incorporating it as a component that bears an academic credit. This effectiveness dimension is also added by Chiupka *et al.*, (2011: 18) citing Weisz and Smith (2005) when they talk about the ability of students to reflect on work experiences, and to conceptualize their learning in order to ultimately bring together their work and academic experiences. Laslett and Zegwaard (2011: 106) also talked about a paper called Reflection on Professional Workplace Experience that the students from the University of Waikato undertake during the semester immediately after the first placement. They further outlined that this explicitly engages students in reflection on the placement learning by way of interactive workshops and oral presentations.

Makhitha (2007: 2) explained that well prepared students do not only save the employer money and time but also contribute to overall performance of the organization. According to Cilliers and Smit (2014: 32) knowing the lack in education during the students' school years, it appears necessary for universities in South

Africa to place more emphasis on students being prepared, the development of additional skills and the refinement of these skills to perfection. 'A co-op program (which termed a WIL programme in this study) can provide the company with continuous supply of qualified individuals who, because of their experience are better prepared to assume management responsibilities in the future', this was explained by Braunstein, Loken, Takei and Wang (2011: 278) as one of the benefits of co-operative and work integrated education for employers. Employers, nevertheless, benefit from their involvement and participation in the process, not least by being able to identify the best new potential entrants to the workplaces (Moletsane and Moloi, 2015: 3).

2.5 Human resource management capacity building for Co-op Practitioners at DUT

The Co-operative Education Unit at DUT is a centralized entity that has a mandate of overseeing all matters of co-operative education and WIL in the university. This unit collaborates with academic departments by means of liaising with WIL Co-ordinators that are appointed in all academic programmes that incorporate WIL. The WIL Co-ordinators are classified as Co-op Practitioners for the purposes of this study as indicated earlier on.

All newly appointed academic staff at DUT are required to attend an induction that is run by the Centre for Excellence in Learning and Teaching (CELT) as part of academic development. The primary goal of CELT is to contribute to the enhancement of the quality of learning, teaching and assessment across all academic programmes offered at DUT. According to Brennan and Little (1996; 94), a longer list of reasons for assessing students that was modified from Atkins, Beattie and Dockrell (1993) are as follows:

- to establish the level of achievement reached at the end of a course, or the progress made during a course

- to give a recognition by making awards or assigning credit
- to monitor standards and hence control and enhance quality
- to diagnose students' strengths, weaknesses and gaps in their learning in order that remedial action can be taken
- to motivate students and stimulate further learning
- to predict a student's likely performance in the future for purposes of selection or progression
- to select for employment
- to ensure requirements of external regulatory bodies (e.g. 'licence to practise') are met
- to help teachers and mentors improve their performance, and to improve the conditions for learning, by providing feedback
- to determine the extent to which course aims, or intended learning outcomes, have been achieved.

Given the importance of Co-operative Education in preparing students for the world beyond academia, particularly future employment, it is essential to understand two key purposes of assessment, which are summative and formative. Summative assessment is focused on evaluating student performance in order to provide certification for employment and further study (Boud & Falchikov, 2006: 401). Formative assessment is largely focused on helping students to improve their learning although it also requires prior evaluative judgements to be made on their performance (Hodges, 2011: 55) citing (Gipps, 1994). Thus, the key distinction between formative and summative assessment is that formative assessment uses judgement for the purpose of improvement, while summative 'stops at the

judgement' (Taras, 2009: 58). The Co-operative Education Unit is usually invited in the induction to make a presentation that aims at promoting awareness for beginners in the co-ordination of WIL.

Moreover, the Co-operative Education Unit at DUT usually hosts workshops for all WIL Co-ordinators to bring them up to speed with new developments as well as assist in problem solving. A specialist is also employed in order to facilitate mentorship workshops to build capacity for WIL Co-ordinators as well as industry partners that supervise DUT students for WIL. Admittedly, this is not sufficient and does not begin to address the capacity needs to facilitate learner support at DUT. According to Cilliers and Smit (2014: 33), at each university, the main development skills namely, emotional, oral, communication, written and design skills must be in place.

Internationally, various systems are in use to administer and manage the complete WIL activity, but these differ largely from the systems used in South Africa (Engelbrecht, 2003: 59). The systems that are used should improve efficiency and reduce human resource requirements, since we are moving toward a paperless environment (Wessels, 2014: 8). The human resource units of such units in the targeted universities mostly involved managerial staff in all and career advisors or employability practitioners, with the necessary support staff (Wessels, 2014: 15). Collaborative capacity building between Nelson Mandela Metropolitan University (NMMU) and Automotive Industry Development Centre (Pty) Ltd (AIDC) desires and strives to establish human resource development capacity relevant to the current and future needs of the automotive industry in South Africa (Rizzo, 2014: 7).

According to Clarke and Llewellynn (2012: 149) citing (Engestrom and Middleton, 1996) it is important to acknowledge that despite the learning opportunity afforded by workplaces, the level and degree of participation and engagement by individuals will vary according to their human agency. The resource is for staff of university and employers involved in WIL, especially constraints surrounding workload and time, are widely documented (Dunn, Fonseca and Schier (2012: 136) citing (Patrick et al., 2009). This research/investigation was no exception to these issues. Koch (2012:

7) explained the WIL system of the Human Resource Management programme and the objectives that serve as a guide for the placement period for the Cape Peninsula University of Technology (CPUT). She summarised the following:

- Students must be prepared to understand the benefit that they will gain from learning opportunities in industry.
- The assessment criteria must be developed so that the student placement period could be integrated into their final curriculum.
- Subject credits must be allocated and awarded according to the qualification criteria.
- Agreement must be reached with employers that the students will be exposed to the critical course-based outcomes within their placement period.

2.6 Summary

This chapter provides the review of literature for Co-operative Education at DUT, national and international practice. In particular the background to the study was presented together with the focus of this research. The educational value of WIL in authentic workplace setting is well documented, and has been practiced for many years in technical, vocational, occupational and professional settings (Blom, 2014: 1). Employers seem to bemoan the fact that young new entrants to the workplace seem to lack the relevant knowledge and skills required and feel that their competitive advantage could be improved by the appointment of more work-ready candidates, says the president of Southern African Society of Cooperative Education (Ori, 2014: v). WIL can play a role with regard to the readiness of graduates to enter and contribute to South Africa society and the world of work. Moreover, government's support for WIL can greatly enhance the development of an educated citizenry (Blom, 2014: 4). The next chapter deals with research methodology for quantitative and qualitative analysis.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Methodology, as the word suggests, relates to a process where the design of the research and choice of particular methods, and their justification in relation to the research project, are made evident (Horrocks & King, 2010: 6). This research implements a Single Case Study (DUT case study) that lends itself to both a quantitative as well as qualitative approach, though they are interrelated that is, the data was collected by open-ended and close-ended questionnaires at the same time. It can be categorised as a mixed methods study. There is also a growing demand for methods that address the range and scope of novel research questions emanating from new theoretical contributions (Hesse-Biber, 2010: 1). This combination of methods “involve[s] the collections, analysis, and integration of quantitative and qualitative data in a single or multiphase study” (Creswell, Creswell, Hanson, Petska and Plano Clark, 2005: 224). Bryman (2006: 97) pointed out that there can be little doubt that research that involves the integration of quantitative and qualitative research has become increasingly common in recent years. Several writers have pointed out that quantitative and qualitative research can be combined at different stages of the research process: formulation of research questions; sampling; data collection; and data analysis (Bryman, 2006: 101). Tashakkori and Teddlie (1998: 17) also explained that mixed method studies are those that combine the qualitative and quantitative approaches in the research methodology of a single study or multi-phased study. Literature review formed the basis for the development of the questionnaires to be used as measuring instruments to ascertain the views of respondents. Questionnaires, as formalized set of questions for obtaining information from the respondents, were used as the main means of collecting data.

3.2 Concepts and definitions

The main concepts relevant to this study can be defined as follows:

- 3.2.1 **Abductive reasoning** - refers to using available facts to come up with the best possible explanation (Asner-Self and Schreiber, 2011: 2).
- 3.2.2 **Complementarity** – one of the reasons for using mixed methods; accomplished by utilizing both quantitative and qualitative data to understand the social story, allowing the researcher to gain a fuller understanding of the research problem and/or clarify a given research result (Hesse-Biber, 2010: 26).
- 3.2.3 **Deductive reasoning** - is the act of drawing a logical conclusion based on evidence (Asner-Self and Schreiber, 2011: 2).
- 3.2.4 **Inductive reasoning** - is the process of coming up with highly probable conclusion (Asner-Self and Schreiber, 2011: 2).
- 3.2.5 **Initiation** – use of mixed method lead to findings that raise questions or contractions that will require clarification, thus initiation of a new study (Hesse-Biber, 2010: 26).
- 3.2.6 **Methods triangulation** – a reason for using mixed methods: the use of more than one method while studying the same research question. The research is looking for a convergence of the collected data by all employed methods in a study to enhance the credibility of the research findings (Hesse-Biber, 2010: 26).
- 3.2.7 **Mixed methods** – a research design that uses both quantitative and qualitative data to answer a particular question or set of questions (Hesse-Biber, 2010: 26).
- 3.2.8 **Population (or universe or target population)** – is the entire set of individuals to which findings of the survey are to be extrapolated (Lemeshow and Levy, 2008: 11).

- 3.2.9 **Quantitative** – having to do with measuring the amount or concentration of a compound in a sample (Loconto, 2006: 671).
- 3.2.10 **Qualitative** – having to do with establishing the presence or identity of a compound (Loconto, 2006: 671).
- 3.2.11 **Qualitative research** – is an umbrella cross- and interdisciplinary term, unifying very diverse methods with often contracting assumptions, which defies simple definitions (Gabrielian, 1999: 178). According to Malterud (2001a: 398) the qualitative research is also called naturalistic inquiry, developed within the social and human sciences and refers to theories on interpretation (hermeneutics) and human experience (phenomenology) and Holloway (1997: 2) defined qualitative research as a form of social inquiry that focuses on the way people interpret and make sense of their experiences and the world in which they live.
- 3.2.12 **Reliability** – whether or not, if the research project's measures were repeated on the same populations, it would create the same results both times (Hesse-Biber, 2010: 100).
- 3.2.13 **Research** – is defined to be a systematic process of active inquiry and discovery through collecting, analyzing and inferring data so that we can understand a given phenomenon in which we are interested (Asner-Self and Schreiber, 2011: 2).
- 3.2.14 **Simple random sample (with or without replacement)** – Each member of the target population has an equal chance of being included in any given sample (Hesse-Biber, 2010: 50).
- 3.2.15 **Stratified random sample** – the researcher divides the target populations into the desired groups (e.g., the populations may be divided by social class) he or she wishes to sample from and then randomly selects populations elements within each group until the target sample size is reached (Hesse-Biber, 2010: 50).

3.2.16 **Systematic random sample** – the researcher selects a sample from a randomly generated list that represents the target populations (sampling frame). The researcher selects every n th element (the interval is determined by the size of the sample needed) from the list until the desired sample size is reached (Hesse-Biber, 2010: 50).

3.2.17 **Triangulation method** - is a methodological procedure for arguing that the criteria of validity, good inference making, has been met (Asner-Self and Schreiber, 2011: 118)

3.2.18 **Validity** – whether or not a method's findings represent the phenomenon they are supposed to measure (Hesse-Biber, 2010: 100).

3.3 Research and plan for the study

Asner-Self and Schreiber (2011: 2) defined research to be a systematic process of active inquiry and discovery through collecting, analyzing and inferring data so that we can understand a given phenomenon in which we are interested. They further explained that research covers a large continuum and it is dependent on the questions that peak our curiosity, what information and data we can get access to, what sorts of analyses we want to conduct and whether we plan to use the study results to explore something, confirm our thinking, or make a decision.

The research in this study implements both adductive and deductive reasoning as it will provide plausible explanations and arriving at logical conclusion based on the evidence from testing the hypothesis. This is a type of action research as affirmed by Asner-Self and Schreiber (2011: 19) that action research is a form of research common in education where practitioners are involved in efforts to improve their work. It is planned to unfold in four stages for the quantitative approach. The first stage involves students that are undertaking WIL during the time of data collection. The second stage entailed targeting the graduates that were enrolled for programmes that incorporated WIL. The third and fourth stages involved the Co-

operative Practitioners or the co-ordinators of WIL at DUT and employers or supervisors of WIL students in the workplace respectively. These respondents were given a specially designed questionnaire to fill. The qualitative approach involved face-to-face semi-structured interviews that had a list of questions that were prepared for both the Co-op Practitioners and employers or supervisors of WIL students in industry. These interview sessions lasted between 30 and 60 minutes and were audio-recorded and subsequently transcribed. Also, as a means of giving the respondents a freedom of expression, a separate open-ended questionnaire was designed and distributed.

3.4.1 The concept of case study research

Case-centred methods are by no means limited to small scale research, but can also offer an alternative for large data sets in situations where the limitations and assumptions of mainstream frequentist or traditional quantitative methods restrict the conclusions that can be drawn from the analysis of quantitative data (Kent, 2009: 184). According to Fleming and Lucas (2012: 58) citing Merriam (1998) case study methodology permitted researchers to gain an in-depth understanding of the issues of interest and a unique interpretation of events. The primary purpose for undertaking a case study is to explore the particularity, the uniqueness, of a single case (Simons, 2009: 3). Simons (2009: 4) went on further to explain that the case could be a person, a classroom, an institution, a programme, a policy or a system. This would mean that a case is an integrated system focusing on specifics rather than generalities. Stake (1995: 3) distinguished three types of case study:-

- Intrinsic – where a case is studied for the intrinsic interest in the case itself.
- Instrumental – where a case is chosen to explore an issue of research question determined on some other ground, that is, the case is chosen to gain insight or understanding to something else.

- Collective – where several cases are studied to form a collective understanding into something else.

Therefore the methods will differ according to the type and the purpose for conducting the case study. Simons (2009: 31) mentioned that, like any other research, case study research needs to be designed. She further outlined that factors to consider in designing a case study include the identification of research questions or issues, the overall methodology, specific methods that will provide relevant data to inform the questions, criteria for choice of participants and ethical procedures to ensure participants are treated fairly.

3.4.2 Rationale for a single case study

Yin (2009:18) defines a single case study as ‘an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident’. One of the main reasons for using a single case study in this investigation is that the DUT practices of Co-operative Education and Work Integrated Learning are not unique. It is representative of other Universities of Technology in South Africa. The other important reason is what was observed by Chetty (2010: 73) citing Soy (1997), that the key strength of the case study method was the use of multiple sources and technique of gathering data. In the case of this investigation, data is gathered from students, graduates, employers and university staff. Yin (2009: 21) pointed out that in these circumstances the case study findings or conclusions are likely to be more convincing and accurate largely because of the use of multiple sources of evidence. Drysdale and Johnsson (2011: 92) also explained that a case study allows researchers to collect detailed descriptive data regarding a single individual, a set of unique behaviours, or a specific environment. They further went on to explain citing Shaughnessy and Zechmeister (1994) that the purpose of a case study is to establish a base of information about an area that has previously been unstudied.

3.5.1 Triangulation method

The data were collected in order to fulfil the aims of this research using the triangulation method. Perumal (2010: 16) cited Silverman (1998) who affirmed that triangulation is the employment of different methods in studying the same phenomena to increase reliability or confidence in research findings. Asner-Self and Schreiber (2011: 118) support this when they described triangulation as a methodological procedure for arguing that the criteria of validity, good inference making, has been met. The triangulation method in this study included the close and open-ended questions in questionnaires, audio recorded interviews, study of policies and documents as well as informal discussions during networking sessions.

Moreover, the study has got to consider incorporating a mixed methods design that is complementarity. Complementarity allows the researcher to gain a fuller understanding of the research problem and/or to clarify a given research result (Hesse-Biber, 2010: 4). This is accomplished by utilizing both quantitative and qualitative data and not just the numerical or narrative explanation alone to understand the social story in its entirety (Hesse-Biber, 2010: 4). Also, this study illustrates the power and possibilities inherent in mixed method research that is initiation. This study of findings may raise questions or contradictions that will require clarification, thus initiation of a new study (Hesse-Biber, 2010: 5).

3.5.2 Snowball sampling technique

A snowball sampling technique was also implemented where the initial few interviewees were used to recommend other potential participants who fit the inclusion criteria for the study (see **Annexure 3**). This investigation adhered to one-to-one interviews. Group interviews were not considered because this study is focused at different individual experiences. Also, there are remote interviewing techniques such as online interviewing, video conferencing, e-mail as well as instant messaging. These were not implemented because the physical distance and the availability of the participants were not a stumbling block. All participation in this study was on voluntary basis. Horrocks and King (2010: 116) stated that participants

who have received payment may feel obliged to respond in a particular fashion having thus relinquished their free choice regarding participation.

3.6 Questionnaires and case study data collection

A comprehensive literature study was undertaken to find answers to the research questions. The overriding objective was to translate the researcher's information needs into a set of specific questions that the respondents were willing and able to answer. On completion of the literature study, closed-ended questionnaires were developed to extract the required data from all targeted stakeholders. Asner-Self and Schreiber (2011: 32) pointed out that a literature review is a thorough, critical analysis of other's thoughts, theories and research on a particular subject that should eventually lead to the research questions. In terms of the quantitative and qualitative approaches, the investigation was planned to unfold in a number of categories as listed below. All questionnaires consisted of Section 1 (Personal details of the respondent) and Section 2 (Specific to the investigation). Respondents were asked to reflect on their views on the following types of 5-point Likert scales:

- Strongly agree; Agree; Not sure; Disagree; Strongly disagree.
- Very poor; Poor; Satisfactory; Very good; Excellent.
- Extremely important; Important; Not sure; Least important; Not important.
- None; Moderate; Large; Very large; Extremely large.

There were four categories of questionnaires that were designed to extract the required data for the quantitative approach, namely;

- A closed-ended questionnaire for students that are currently undertaking WIL (See **Appendix C**),

- A closed-ended questionnaire for WIL graduates (See **Appendix D**),
- A closed-ended questionnaire for Co-op Practitioners at DUT (See **Appendix E**),
- A closed-ended questionnaire for Industrial Supervisor/Employers that absorb WIL DUT students (See **Appendix G**).

In order to conduct the qualitative method of this study, the following two categories of questionnaires were designed. This was aimed at allowing them a freedom of expression with regards to their feelings, opinion and experiences. This is part of a qualitative technique of data collection.

- An open-ended questionnaire for Co-op Practitioners at DUT (See **Appendix I**).
- An open-ended questionnaire for employers that absorb WIL students (See **Appendix J**).

In addition to this, there was also a list of questions that were prepared for conducting interviews for the Co-op Practitioners at DUT (See **Appendix F**) as well as the employers and industry participants (See **Appendix H**). This was done as part of the qualitative approach. In general, questions for the interviews were largely open-ended. At no time was it intended to limit a respondent's view, rather, the intention was to understand the experiences of those interviewed. The researcher was a primary source of data and information collection. Not only because from a qualitative research design it could be argued that this is the main instrument (Neuman, 2003: 375), but also in this instance happened to be an active participant in the facilitation of learner support for WIL students at DUT. This being the researcher's intimate involvement in the establishment of WIL policies of DUT, marketing of WIL internal and external DUT and the mentorship of WIL DUT staff who are beginners in WIL as well as WIL students. According to Engelbrecht (2003: 49) the vision, mission and goals of Co-operative Education in HEIs must be

documented and the policies regarding student eligibility and company participation must be implemented. Also, one had to balance between what Chetty (2010: 80) calls the role of internal and external researcher citing Sooklal (2005) as one had to obtain qualitative and quantitative data from external and internal stakeholders. Telephone calls are made at times to others who are not interviewed to test a perspective that the researcher was presented with by the interviewed candidates.

3.7.1 Correlation and regression analysis

Correlation and regression are two techniques that enable to determine the connection between the actual dimensions of two or more variables. In this section, one is only looking at two variables at a time, but the researcher should be aware that statisticians use these theories and similar formulae to look at the relationship between many variables. When these techniques are concerned with using models for prediction and decision-making (Stephens, 2004: 136).

The Pearson's Product Moment Correlation (Pearson's R) r-value gives an indication as to the strength of the relationship between the variables. The closer values are to ± 1 , the stronger the relationship (both positive and negative). The closer the value is to 0, the weaker the relationship (Lind, Marchal, Mason, 2004: 457 - 460).

3.7.2 Chi-square test

A chi-square test is any statistical hypothesis test in which the test statistic has a chi-square distribution when the null hypothesis is true, or any in which the probability distribution of the test statistic (assuming the null hypothesis is true) can be made to approximate a chi-square distribution as closely as desired by making the sample size large enough. Specifically, a chi-square test for independence evaluates statistically significant *differences* between proportions for two or more groups in a data set (Willemse, 2009: 209 – 214).

Chi-square test statistic:

$$\chi^2 = \frac{(f_o - f_e)^2}{f_e}$$
$$df = (r-1)(c-1)$$

3.7.3 Hypotheses tests: P-values and statistical significance

Inferential statistical analysis is concerned with the testing of hypothesis. The independent t-test is the most appropriate parametric test for a comparison of the means. This tests any significant difference between the two variables. Primary data was collated and analysed and comments and concluding discussions are thereafter based on the results obtained (Lind, Marchal, Mason, 2004: 348 – 351). Inferential statistical analysis allows the researcher to draw conclusions about populations from sample data. The most important application in the social sciences of the statistical theory around sampling distributions has been significance testing or statistical hypothesis testing.

The traditional approach to reporting a result requires a statement of statistical significance. A p-value is generated from a test statistic. A significant result is indicated with "p < 0.05" (Lind, Marchal, Mason, 2004: 347). The choice of the value 0.05 as the level of significance is in fact totally arbitrary, but has become enshrined as a standard in statistics. These values are highlighted in yellow colour or with a * (Table 6.2.9). A Chi square test was performed to determine whether there was a statistically significant relationship between the variables (rows versus columns). The null hypothesis states that there is no association between the two. The alternate hypothesis indicates that there is an association.

3.7.4 Cronbach's alpha

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. A "high" value for alpha does not imply that the measure is unidimensional. If, in

addition to measuring internal consistency, you wish to provide evidence that the scale in question is unidimensional, additional analyses can be performed. Exploratory factor analysis is one method of checking dimensionality. Technically speaking, Cronbach's alpha is not a statistical test - it is a coefficient of reliability (SPSS, 2007: 1).

Reliability refers to the property of a measurement instrument that causes it to give similar results for similar inputs. Cronbach's alpha is a measure of reliability. More specifically, alpha is a lower bound for the true reliability of the survey. Mathematically, reliability is defined as the proportion of the variability in the responses to the survey that is the result of differences in the respondents. That is, answers to a reliable survey will differ because respondents have different opinions, not because the survey is confusing or has multiple interpretations. The computation of Cronbach's alpha is based on the number of items on the survey (k) and the ratio of the average inter-item covariance to the average item variance.

$$\alpha = \frac{k(\text{cov/var})}{1 + (k - 1) (\text{cov/var})}$$

Under the assumption that the item variances are all equal, this ratio simplifies to the average inter-item correlation, and the result is known as the Standardized item alpha (or Spearman-Brown stepped-up reliability coefficient).

$$\alpha = \frac{kr}{1 + (k - 1) r}$$

Notice that the Standardized item alpha is computed only if inter-item statistics are specified. The coefficient of 0.921 reported for these items is an estimate of the true alpha, which in turn is a lower bound for the true reliability (SPSS version 22.0, 2012: 1).

3.8 Reliability

Asner-Self and Schreiber (2011: 110) defined reliability to be the consistency or stability of the values, test scores or weight measurement. They further went on to describe validity as an inference made from the data collected from instruments (Asner-Self and Schreiber, 2011: 113). The four questionnaires for quantitative analysis were revised with comments from the internal research supervisor as well as the external supervisor. These were also assessed by the statistician to ensure that they will produce interpretable results. In order to ensure repeatability and reproducibility, some respondents were requested to fill the same questionnaire again after some time. In some cases a telephonic interview was scheduled with a respondent who has already filled a questionnaire and go through the same questions to ensure reliability. Also, in order to ensure the validity of the information collected, the data analysis was subject to continuous back-checks with the respondents that gave the information. The reliability of an estimated population characteristic refers to how reproducible the estimator is over repetitions of the process yielding the estimator (Lemeshow and Levy, 2008: 35).

3.9 Validity

Studying the policies and documents of an organization gives insight to how it functions and what meaning it attaches to situation and how it interacts within its own members and external partners. This information can also be used to seek a clear direction on the practices of the organisation. Qualitative methods can also assist researchers who want to test the validity of their research questionnaires by sequentially utilizing mixed methods (Hesse-Biber, 2010: 6). In addition, a qualitative researcher might employ a sequential design in order to increase the validity of his or her qualitative findings by the quantitative sample to inform the specific type of qualitative sample chosen (Hesse-Biber, 2010: 53). The validity of an estimated population characteristic refers to how the mean of the estimator over repetitions of the process yielding the estimate, differs from the true value of the parameter being estimated (Lemeshow and Levy, 2008: 35).

3.10 Preliminary work

A small-scale investigation of the method was adopted. This was undertaken to test the questionnaires. A questionnaire was given to the respondents in different categories. The analysis of data was done. The preliminary results were presented at the 17th World Conference on Co-operative and Work Integrated Education that was hosted by the World Association for Co-operative Education (WACE) in collaboration with Drexel University Philadelphia in the United States of America (June 2011). Moreover, the results are shown in Chapter 4. The comments made by the audience were considered and used to improve the quality of questions in the questionnaires. The feedback from the audience was positive and encouraging (See **Annexure 2**).

3.11 Quantitative analysis and qualitative analysis

Qualitative data illuminate the meaning of statistical results by adding a narrative understanding to quantitative research finding (Hesse-Biber, 2010: 6). Qualitative method is a research using 'unstructured' forms of data collection, both interviewing and observation, and employing verbal descriptions and explanations rather than quantitative measurement and statistical analysis (Hammersley, 1989: 1). According to Major and Savin-Baden (2013: 12) qualitative research has an 'emic' perspective (describing behaviour or beliefs that are meaningful to the participant) which leads to choices in determining what might be meaningful for a participant. Moreover, quantitative research has an 'etic' perspective (describing behaviour or belief of an observer). Horrocks and King (2010: 7) pointed out that quantitative research is concerned with measurement, precisely and accurately capturing aspects of the social world that are then expressed in numbers – percentages, probability values, variance ratios, etc. In this study, the quantitative (in the form of a questionnaire) research design is interpreted by means of tables, bar graphs and pie charts. Drysdale and Johnsson (2011: 93) citing Leech and Onwuegbuzie (2008) pointed out that qualitative data is particularly effective in educational research such as WIL because it allows researchers to develop theories and models for future testing, assess variables that impact on the efficacy of programme implementation and

construction, and identify modifications that are necessary for programmes, as well as explore unintended outcomes of a curriculum. The results are based on responses from targeted population as explained in the next section. Analysis of data by statistical tools is also performed and shown on presented results. **Table 3.1** below is a comparison of quantitative and qualitative characteristics.

Table 3.1: Comparison of quantitative and qualitative characteristics

	<i>Quantitative</i>	<i>Qualitative</i>
Guiding philosophy	Positivistic	Several options
Orientation	Objective/impersonal	Subjective/personal
Perspective	Etic	Emic
Focus	Single reality	Multiple realities
Setting	Controlled	Uncontrolled
Instrument	Survey/test	Researcher
Distance	Objective outsider	Involved participant
Method	Prescribed by design	Variable
Data	Single source	Multiple sources
Analytic Process	Deductive/reductionist	Inductive/holistic
Quality	Fixed	Variable
Report characteristic	Concise, numerical	Rich, descriptive, verbal

Source: Major and Savin-Baden (2013: 15)

In this investigation the qualitative approach (in the form of semi-structured face-to-face interviews) is implemented to collect data of the experiences of participants. This was mainly used as part of discussion and conclusions. Drysdale and Johnsson (2011: 93) explained in general that qualitative research involves the analysis of data such as words (i.e., from interviews), pictures (i.e., video) or objects (i.e., artefact) while quantitative research involves the analysis of numerical data. This investigation has taken the approach of face-to-face semi-structured interviews for qualitative research purposes (to allow the participants to verbally describe their experiences of the phenomenon) and it relies on the experiences and opinions of the respondents. As explained earlier on, this was also augmented by open-ended questionnaires to allow the respondents to write descriptions of their experiences.

This is done in order to gain insight through discovering meanings by improving comprehension as a whole. Quantitative data will enumerate while qualitative data explains.

Drysdale and Johnsson (2011: 95) also listed conditions that should mostly apply to choosing either a quantitative or qualitative approach for conducting a research, these are as follows:-

Conditions for a quantitative method are as follows:

- The research is confirmatory rather than exploratory, that is, this is a frequently researched topic, and numerical data from earlier research is available;
- The researcher is trying to measure a trend (almost impossible with qualitative research);
- There is no ambiguity about the concept being measured, and only one way to measure each concept; and
- The concept is measured on a ratio (intervals with absolute zero) or ordinal (rankings) scale.

Conditions for a qualitative method are as follows:

- There is no existing data on this topic;
- The most appropriate unit of measurement is not certain;
- The concept is assessed on a nominal (label or name) scale, with no clear demarcation point;
- The reasons why people do or believe something are being explored.

Qualitative data is any information the researcher gathers that is not expressed in numbers (Tesch, 2008: 55). The research falls between the two categories and therefore as explained earlier on, both approaches are implemented.

3.11.1 Sampling design for quantitative component

The sampling plan is the methodology used for selecting the sample from the population (Lemeshow and Levy, 2008: 3). There are types of sampling in this study, namely, simple random, systematic random and stratified random sampling (see 3.2 concepts and definitions). Sometime the sampling frame can be partitioned into group or strata, and the sampling can be performed separately within each stratum (Lemeshow and Levy, 2008: 121). Moreover, if simple random sampling is used to select the sample within each of the strata, the sample design is called stratified random sampling (Lemeshow and Levy, 2008: 121). This study will focus on stratified random sampling. Stratified sampling is used in certain types of surveys because it combines the conceptual simplicity of simple random sampling with potentially significant gains in reliability (Lemeshow and Levy, 2008: 122). There are three major advantages of stratification in comparison to simple random sampling (Lemeshow and Levy, 2008: 126):

- Given certain conditions, precision may be increased over simple random sampling (i.e., lower standard errors may result from the estimation procedure).
- It is possible to obtain estimates for each of the strata that have specified precision.
- It may be just as easy, for either political or administrative reasons, to collect information for a stratified sample as is possible for a simple random sample. If such is the case, there is little to lose by taking a stratified sample, since the resulting standard errors will rarely exceed those of simple random sampling.

Sampling for qualitative analysis was done in order to inform the purpose of the study. Quantitative sampling designs rely on “laws of probability” (the idea is that all members of a given population have an equal and known probability of being selected in a sample) in order to permit the use of statistical testing, so as to ascertain whether their research findings are in fact “true” with respect to their overall target populations (Hesse-Biber, 2010: 50). This study implemented a selective sampling approach. Therefore, categories such as age, gender, role or function in the organization were considered. Also, sampling was done in different locations, for instance:

- a questionnaire was filled by WIL students and graduates from different faculties and academic programmes;
- employers from different industries that employ WIL students also filled a questionnaire;
- Co-op Practitioners from different academic departments and backgrounds also responded to the questionnaire.

3.11.2 WIL students and graduates

During the presentations of the investigations and mini-projects that are done by WIL students whilst in industry, a relevant questionnaire was distributed to them. At the same time, every student who is registered at DUT has an email address that is kept in the DUT4life database. A questionnaire was sent to students and graduates using this database.

3.11.3 Electronic distribution of the questionnaire

Relevant questionnaires were sent to participants by e-mail together with a covering letter to the respondents (See **Appendix A.3**). In order to ensure that the electronic questionnaire was distributed to as many respondents across all the stakeholders, a

snowballing technique was implemented. According to Welman and Kruger (1999: 63), in this type of sampling, a few individuals are approached from the relevant population. They act as the informants and identify others from the same population to be included in the sample. The latter may identify others to be included like a rolling snowball (See **Annexure 3**). Asner-Self and Schreiber (2011: 85) also confirmed that snowball sampling occurs when participants who are sampled provide the names of other potential participants. An employer or two were approached to assist me in distributing a questionnaire widely to other employers in their industry who are involved in WIL. These key persons also served as a post office for the collection for completed questionnaires, especially if their contacts preferred the print and manual filling-in option. It was indicated that the questionnaire could be filled in by pen and then forwarded by email or fax. The letter to the respondents provided the background and the details of the researcher so that respondents can interact if they so wished.

3.11.4 Sampling for qualitative component

It should be noted here that all participants were asked to complete and sign a Consent Form (See **Appendix B**). Patton (1990: 169) views all types of sampling in qualitative research to be encompassed under the broad term of 'purposeful sampling'. He states that 'qualitative inquiry typically focuses in depth on relatively small samples, even single cases, selected purposefully'. Yin (2009: 28) observed that compared to other research methods, case studies require an inquiring mind during data collection. The key is the ability to pose and ask good questions. The samples were intentionally selected according to the needs of the study. There were few occasions where the interviewee would angle away from the issue in question, such responses tended to be far-fetched. In such cases, some intervention would be made by giving a correct version but referring it to others. As a researcher, one had to be very careful in not being viewed by interviewees as influencing them as a result of possessing personal knowledge about the facilitation of WIL. However, all interviewees showed eagerness to expressing themselves openly and honestly to their experiences in WIL facilitation. Moreover, the interviews were coupled with note-taking on the questionnaires together with a digital audio recording. It must be

mentioned here that consent to record the interview had to be obtained from each participant before it was done. A consent form that was modified from Horrocks and King (2010: 113) was used in this study (See **Appendix B**). Ethical codes of practice emphasize the importance of gaining the informed consent of participants prior to taking part in the research Horrocks and King (2010: 110). It must also be added that some of the participants were not feeling comfortable about being recorded. The two ways to address this were as follows:

- ensuring them that the interview was strictly confidential and is only going to be used for research purposes.
- switching the recorder as early as possible – for instance whilst the interview procedure was being explained to them.

The main reason for using audio recording was to ensure that all the responses that were not captured during the interview can be included at a later stage. Therefore a partial transcription was done by identifying main areas of interest to a sufficient level of detail.

Horrocks and King (2010: 3) also suggested that the following are defining characteristics of the generic qualitative interview:-

- It is flexible and open-ended in style.
- It tends to focus on people's actual experiences more than general beliefs and opinions.
- The relationship between interviewer and interviewee is crucial to the method.

Horrocks and King (2010: 29) explained that the criterion most commonly used for sampling in qualitative studies is diversity. They further pointed out that researchers seek to recruit participants who represent a variety of positions in relation to the research topic, of a kind that might be expected to throw light on meaningful

differences of experience. Horrocks and King (2010: 30) also stated that in qualitative research, sampling and recruiting participants may occur at several stages in the course of a project. Thus an initial step may be recruited and interviewed, and on the basis of preliminary analysis of their data, a further sample defined to address particular issues. In addition, the questionnaires also focused on the profile of individual respondents be it a Co-op practitioner or the employer. This assisted by giving assurance on the quality of the responses. Furthermore, employers were required to indicate the type of industry that they represented.

3.12 The purpose for interviews

The purpose of the interview was to gather qualitative information on the perception of each participant about capacity needs for learner support facilitation. The interviews were scheduled for 30 minutes but in most cases the sessions took almost an hour.

3.12.1 Population and sampling procedure for the interviews

This text will present a variety of methods for selecting a subset (a sample) from the original set of all measurements (the population) of interest to the researchers (Lemeshow and Levy, 2008: 3). A decision had to be made about who or what to interview, where and when. However, not all the members of the population can be interviewed but only a few selected ones. The interviewer had the liberty of deciding in which order the questions can be answered. Also, some of the questions were rephrased in order to ensure that participants do not feel offended. For example, some of the participants are Heads of Departments who got involved in Work Integrated Learning for over the period of 10 years. Asking them questions such as 'Have you been trained to facilitate learner support?' would be offensive, but at the same time, this is a very important question in this investigation. The actual questions were posed to the participants and the researcher ascertains how the participants interpret these questions. Interviewing is more popular than ever as a means of generating information for both scholarly and professional purposes

(Gubrium and Holstein, 2011: 149). Interviews are inherently more flexible, whatever the level of structure, ranging as they do from 'listening in' and asking questions in a real-life setting to the standardized recording schedules used by market researches (Gillham, 2005: 3).

3.12.2 Interviews sessions for Co-operative Education Practitioners

Interviews enable the researcher to explore complex issues in detail, and they facilitate personal engagement in the collection of data (Perumal, 2010: 16). He further explained that interviews facilitate personal engagement in the collection of data. Interviewing is the most commonly used method of data collection in qualitative research, and this familiarity has advantages for researchers (Horrocks & King, 2010: 1). In respect of the semi-structured interviews, notes of the responses to the bank of interview questions in **Appendix F** were made in order to be used in the discussion. Also, these interviews were audio-recorded in case some important information was missed or misinterpreted. The study population was composed of Senior Lecturers, Heads of Departments, WIL Co-ordinators and University Mentors (See the interview schedule listed in **Appendix K**). Interviewees were selected according to the list of qualifications with experiential time approved by the Department of Higher Education and Training (See **Annexure 1**). The researchers first used employee interviews to gather a wealth of narrative information and then used their qualitative findings to create a survey to collect numerical data (Hesse-Biber, 2010: 4).

3.12.3 Interview sessions for employers

Participants from the side of the employers were selected according to their experience with regards to WIL and the extent of working relationship with DUT. In the case of employers, cognisance of the fact that it was necessary to protect the identities of the respondents was taken so as to give them confidence in expressing their views. Also, the interviewer posed open ended questions to allow the participants to reconstruct their own experiences and the roles in their companies

(see **Appendix H**). These respondents were indicated by their job title rather than the person's name when the reference is provided in the reference note, for example, it would read 'interview/conversation with technical manager of a chemical company'. The study population included Human Resource Practitioners/Managers, Operational Managers as well as Technical Managers (See the interview schedule listed in **Appendix L**).

3.12.4 Transcripts of interviews

It was explained earlier on that interviews are the main source of evidence for the qualitative approach in this study. It was further pointed out that an audio digital recorder was used to ensure that there was no information that was omitted during capturing. The questions were readily listed on the interview questionnaire (See **Appendices F & H**). Space was provided for the interviewer to scribble on and was carried in all interview sessions. The researcher filled notes which were later transferred into this document (See **Chapter 5**) together with transcribed audio recorded interview sessions.

3.13 Capturing and the analysis of data

The data obtained for preliminary work was manually analysed by the researcher. However, the capturing and the analysis of data for the entire investigation was performed by a statistician and his team. After data have been collected, coded, edited, and processed, the findings can be analyzed statistically and the findings can be incorporated into a final report (Lemeshow and Levy, 2008: 7). In order to obtain meaningful findings from the data gathering process, the following statistical analyses were performed:

- Conversion of responses to percentage was undertaken by the researcher for the pilot study in Chapter 4.

- Responses were captured directly from the questionnaires in Chapter 5 and 6. Analysis for the results was performed by Statistical Programme for Social Sciences (SPSS) version 22.0 that was released in 2012.

The qualitative results was analysed by interviews as well as transcripts that were pre-arranged and audio-recorded in Chapter 5. These interviews were conducted separately and independently for participants from the university as well as participants from the employers respectively. Each participant was requested to sign the consent form after having read the letter to respondents that requests them to take part in the interviews. The triangulation method in this study included the close and open-ended questions in questionnaires, audio recorded interviews, study of policies and documents as well as informal discussions during networking sessions.

3.14 Summary

This chapter implemented a mixed method approach. Asner-Self and Schreiber (2011: 16) described a mixed methods research study as an approach in which the researcher collects data based on research questions that will contain numbers and non-numbers along with related methodologies categorised within a qualitative and quantitative framework. The qualitative and quantitative approaches have proven to be important and reliable in collecting the required data. These would have worked even better had we received enough support and willingness to take part on the side of the academics. A research plan was drawn to guide and co-ordinate the different methods. It should be noted that it was also difficult to get the graduates to participate in this research as they did not see any benefit for them. This led to the researcher's repeated explanations to inform graduates that this research was aimed at benefiting future WIL students. In the second part of the study, an electronic designed questionnaire was distributed to the Co-op Practitioners and the employers. Chapter 4 is the empirical study and results of WIL students, graduates, Co-op Practitioners and the employers.

CHAPTER 4

PILOT STUDY, FINDINGS AND DISCUSSIONS

4.1 Introduction

A pilot study was done in order to test the questionnaires with regards to the relevance and clarity of questions for quantitative results. The results obtained were presented at an international conference (See **Annexure 2**) and accepted for publication by the *Asia-Pacific Journal of Co-operative Education* (See **Annexure 4**). The title of the article is as follows: *An investigation into the Human Resource Capacity need for facilitators of learner support. A DUT case study.*

4.2 Sampling for pilot study

A comprehensive literature study was undertaken to find answers to the research questions. This was discussed in Chapter 3. Questionnaires were specially developed and distributed to participants as described below. On completion of the literature study, closed-ended questionnaires were developed to extract the required data from graduates, industry participants as well as university mentors and academics who are taking part in WIL.

4.2.1 Response for quantitative results

From a total of 108 questionnaires distributed to industry participants, a total of 100 responses were received (92.6 percent response rate). Also, from a total of 69 questionnaires distributed to Co-op Practitioners at the capacity building workshop at DUT, 45 responses were received back (65.2 percent response rate). Finally, from a total of 110 questionnaires that were handed out to graduates, 104 responses were collected back (94.5 percent response rate). A high response rate was attributed to the fact that questionnaires were handed-out and collected back at the same event.

4.2.2 Research results of WIL graduates

The Durban University of Technology hosted a Homecoming event via its Convocation office in July 2011. This is the event that is hosted by the university for its graduates for the purpose of sharing information, securing funding from graduates and improving DUT's operational systems. This event has shown success in drawing interest from thousands of graduates of the university that are situated across the country and abroad to make inputs towards the betterment of the processes of running the institution. A research questionnaire was designed to extract information that is relevant to the graduates of DUT. This questionnaire had 104 respondents.

4.2.3 Research results of DUT's Co-operative Education Practitioners

A separate questionnaire designed for the university personnel (WIL Co-ordinators, University Mentors and academic staff who are involved in WIL) was handed out in a capacity building workshop that was hosted by the Co-operative Education Unit at DUT. This workshop was attended by 69 participants. The results are based on the 45 responses that were received.

4.2.4 Responses from industry participants/employers

The Academic Departments in a joint initiative with the Co-operative Education Unit host advisory board meetings for each and every programme offered at DUT. Each advisory board comprises 60 percent of external partners such as Private Sector and Businesses, Government Departments and Non-governmental Organizations as directed by the DUT constitution on advisory boards. It is important to appreciate the fact that external partners do identify and send senior members to take part in these boards. This is important in this study as it ensures the collection of quality data. A relevant research questionnaire was handed-out to respondents and collected during these meetings.

4.3 Analysis of preliminary findings and discussion

The results in tables, bar graphs and pie charts are expressed in percentages. Percentage means hundredths and uses the % symbol, which means percent (Van der Merwe & Viljoen, 2009: 16). They further explained the rule that to get r percent of a certain number N , use equation (1),

$$(r/100) \times N \quad (1)$$

the equation for percent calculation is as shown in equation (2).

$$\text{Percent (\%)} = (r / N) \times 100 \quad (2)$$

Where: r = part of the respondents
 N = All of the respondents

For an example, the percentages of respondents from industry with (i) 2 – 5 years experience and (ii) over 10 years experience in **Pie Chart 4.3.1** were calculated by substituting the values in equation (2) as follows:

$$\begin{aligned} \text{(i) Percentage (\%)} &= (31/100) \times 100 \\ &= 31 \end{aligned}$$

$$r = 31 \text{ and } N = 100$$

$$\begin{aligned} \text{(ii) Percentage (\%)} &= (44/100) \times 100 \\ &= 44 \end{aligned}$$

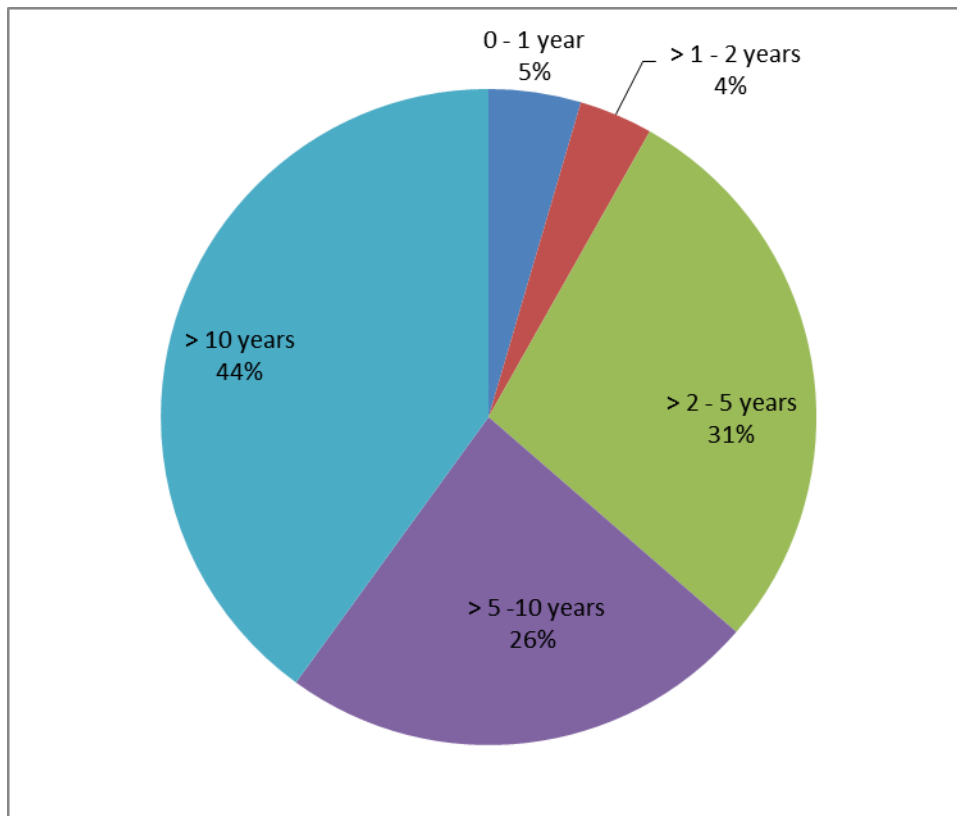
$$r = 44 \text{ and } N = 100$$

Bar graphs and pie charts will be used to elaborate important aspects and findings.

4.3.1 Findings for employers

It is important to note that 53% of the respondents were female whilst 47% are male. It would be interesting to see the outcome of this investigation as it is generally assumed that females are more caring as compared to males. In order to ensure the collection of quality data, the questionnaire for the respondents from organisations/employers asked them to mark the years of experience in the position that they are occupying. It is very good to note that 44% of the respondents had an experience of over 10 years. This means that these respondents were senior members of staff who could accurately reflect the quality of WIL students and recent graduates as well as the expectations of employers. This is shown in **Pie Chart**

4.3.1. This is followed by 31 and 26% who had over 2 – 5 years and over 5 – 10 years experience respectively. These are also fairly senior member of employer's staff in different organisations. Respondents that had 0 – 1 year and over 1 – 2 years experience constituted 5 and 4 percent respectively. This means that their opinion did not make a large impact on this investigation.



Pie Chart 4.3.1: Years of experience of respondents from industry

Mentoring is one way of providing support for learners in the workplace (Brennan & Little, 1996: 91). This study revealed that a large percentage of employers suggested that lack of learner support can contribute to student failure as shown in **Figure 4.3.1**. However, a note should be taken that as stated by Howison *et al.*, (2011: 338) that private sector organizations have the additional pressure to be profitable, for them, students must add value or they will not be considered. Employer commitment to work-based learning will clearly help to encourage a supportive learning environment (Brennan & Little, 1996: 91).

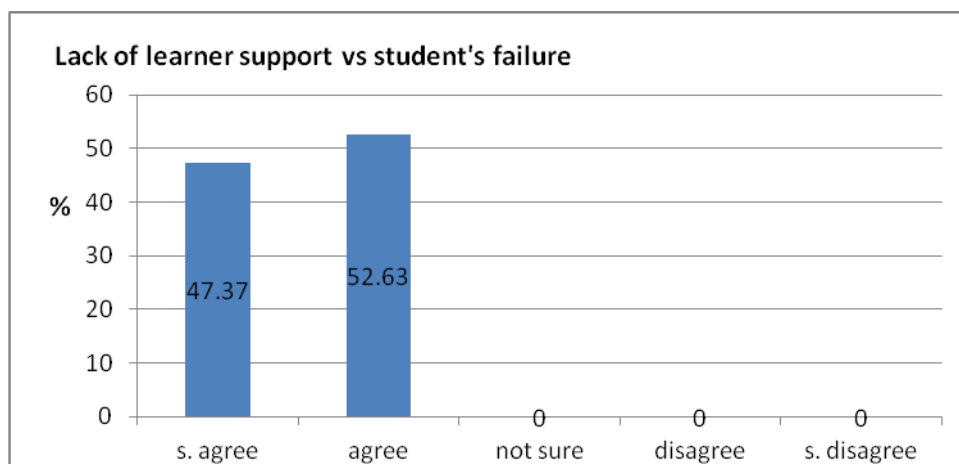


Figure 4.3.1: Lack of learner support versus student's failure

However, commitment alone may not guarantee that the emotional support, practical support and political support is in fact readily available. This suggests that there has to be collaboration between employers and the university in order to design a model that can address these types of support. A number of research reports across the different disciplines have identified that employers consider that it is important for graduates to have a broad range of both cognitive and behavioural competencies (Hodges, 2011: 55). It therefore follows that the diversity of skills will be expected to be deployed by students who are undertaking work placements. Bartkus (2001: 48) emphasizes the importance of students' social skills, noting that the successful workplace experiences are enhanced when the student is able to communicate effectively in an interpersonal work environment. Barriers to a successful work experience cited by students were a lack of support from the faculty in their programme and a lack of courses relevant to their jobs (Rowe, 2011: 332). It was also stated in the Green Paper for Post-School Education and Training (2012: 43)

student support at undergraduate level should be taken seriously as a vital and strategic activity of all universities.

Most (if not all) Co-op Practitioners, be it university staff or industrial supervisors, are not formally trained to facilitate learner support. They either get to participate in the facilitation of WIL appointment or a particular passion drives their involvement. According to Ferkins and Fleming (2011: 185) the quality of the supervision, both industrial and academic, is also instrumental in maximising the value of the learning experience. **Figure 4.3.2** shows Co-op Practitioners need to be capacitated as the majority of respondents indicated that training to facilitate WIL is extremely important. Brennan and Little (1996: 87) support this when they explain that most of their more recent work-based learning development projects have identified a need for some initial mentor training, although there is clearly a range of practice about the extent and formality of such training. Bates and Madu (2011: 233) also suggested that in order to address some of the potential concerns, the university may provide a number of workshops throughout the placement for workplace supervisors. They further pointed out that these provide a venue to meet with supervisors from other organizations while providing opportunities to discuss the expectations of the university and their own individual organisations, the expectations and the progress of students, and generally use this time to communicate with others and alleviate any concerns that may be evident. Onyx (2001: 139) also concluded in her chapter, *Implementing Work-Based Learning for the First Time*, that the lessons that can be learnt from their experience suggest that they have not recognized the importance of adequate staff development of both university and workplace supervisors. This was also identified by Trede (2012: 165) when they mentioned that there are unequal power relations between student and workplace educators. He further explained that workplace educators might be unskilled in facilitating student learning and students might be unsure on how to participate.

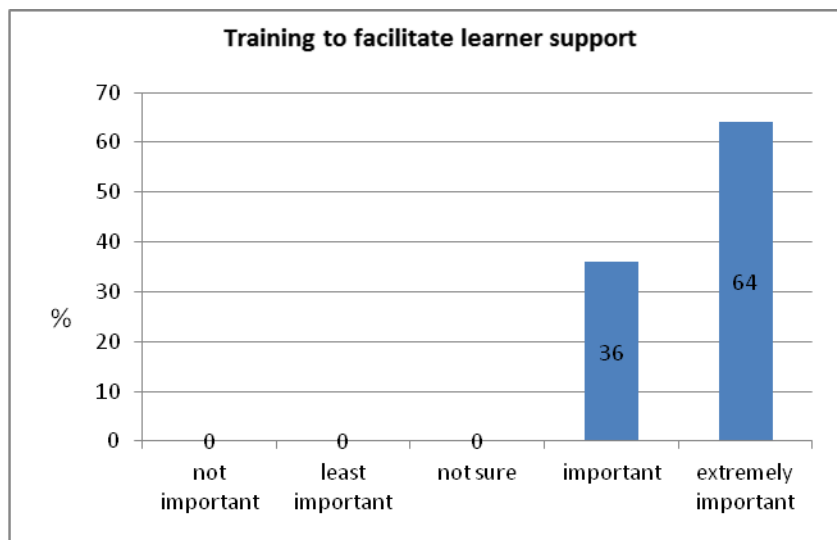


Figure 4.3.2: Training to facilitate learner support

Other employers mention the value of students bringing fresh ideas to their work practices, the opportunity for their staff to practice their mentoring skills, the opportunities to influence curriculum design and even to develop research-based initiatives (Crump & Johnsson, 2001: 291). According to the responses shown in **Figure 4.3.3**, a supported learner is better suited for the needs of industry. It should be noted that this does not mean that a student should be spoon fed. Industry also commented that students must also take initiatives and responsibility for their work. Wenger (1998: 188) noted that workplace learning can be transformative, in that it can lead to 'identity formation' through an investment of the self in relations of association and differentiation, with association occurring through 'engagement in activities and social interactions' (Wenger, 1998: 193). Also, according to Ferkins and Fleming (2011: 185) the effectiveness of a placement can be dependent on a successful match between a student's skill, aspiration, attributes and the needs of the organization.

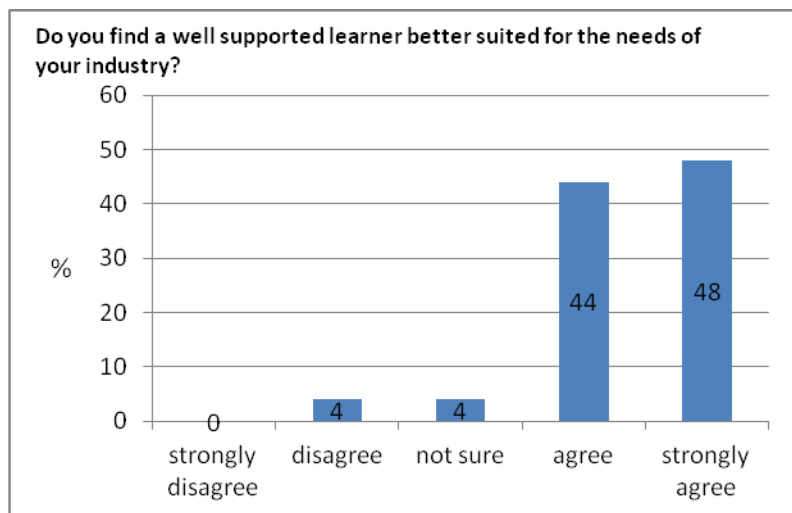


Figure 4.3.3: Learner support vs needs of industry

Ferkins and Fleming (2011: 184) stated that as the university staff visit the students in industry, the interaction industry supervisors and other staff helps the university staff to stay abreast of the changes occurring in industry. The university is better able to respond and to ensure that a highly-relevant curriculum is offered. Brennan and Little (1996: 86) briefly explained that short job descriptions for the workplace mentor may be drawn up emphasising the formal aspects of the function (e.g. matching a student to a workplace and a mentor, monitoring and guiding the learner's progress towards agreed learning objectives, assessing recorded outcomes). In **Figure 4.3.4**, 72 percent of the respondents indicated that the visits by the University Mentors are extremely important. These visits are meant to guide the students and ensure that they will at the end of the training achieve the outcomes that are stipulated in their training manuals. The remaining 28 percent also felt that the visits are important. Ferkins and Fleming (2011: 182) outlined that academic supervision include one-on-one time mentoring with academic staff, group supervision in a seminar setting, once-off or regular site visits and distance communication via e-mail, phone or web-based interaction. They further pointed out that the important part of the supervision process includes communication with the industry supervisor facilitating active and applied links with the industry for the university staff. According to Copper (2011: 247) mutuality and reciprocity are important principles. He also explained that mutuality means regular dialogue with agencies, supervisors and students about the standards and the quality of practice education.

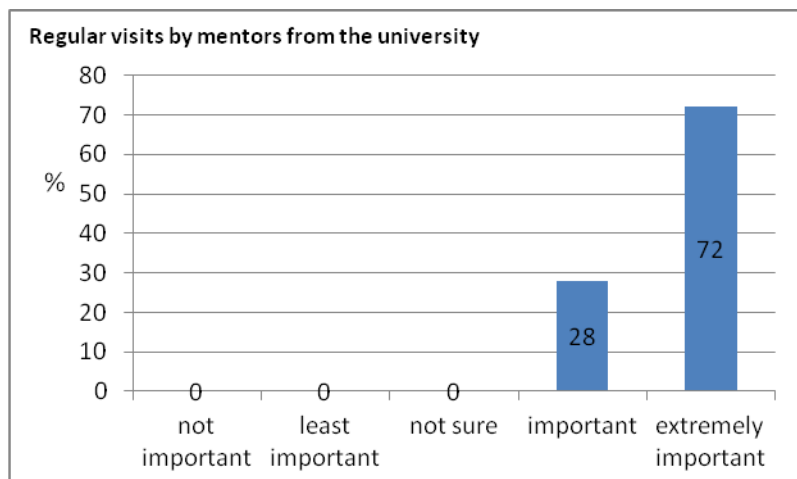


Figure 4.3.4: Visits by mentors from the university

Large employers have a tendency of placing more than one WIL student. It does happen in some cases that there is a noticeable difference in the abilities and performance of students, even if they are from the same class. This study also investigated how the employer would handle such differences. **Figure 4.3.5** shows that 81.08 percent indicated that they would pay more attention to the underperforming student. This coincides with the large percentage of graduates who indicated that employers or Industrial Supervisors made a positive impact towards their learning during WIL in **Figure 4.3.10**. 18.92 percent said they would assign more duties to weak students in order to help them find their feet and gain confidence. It is interesting to find out that no employer said they would ignore or expel such students as shown in **Figure 4.3.5**. Hoskyn and Martin (2011: 176) stated that the role of the workplace supervisor is more important (especially where there is large numbers of students) as is the need to brief them to ensure that they are receiving appropriate workplace support.

The work preparedness workshops at DUT are currently not bearing credit towards the modules of any qualification. However, it is compulsory for a student to attend these workshops. There is no penalty in a case where a student chooses not to take part.

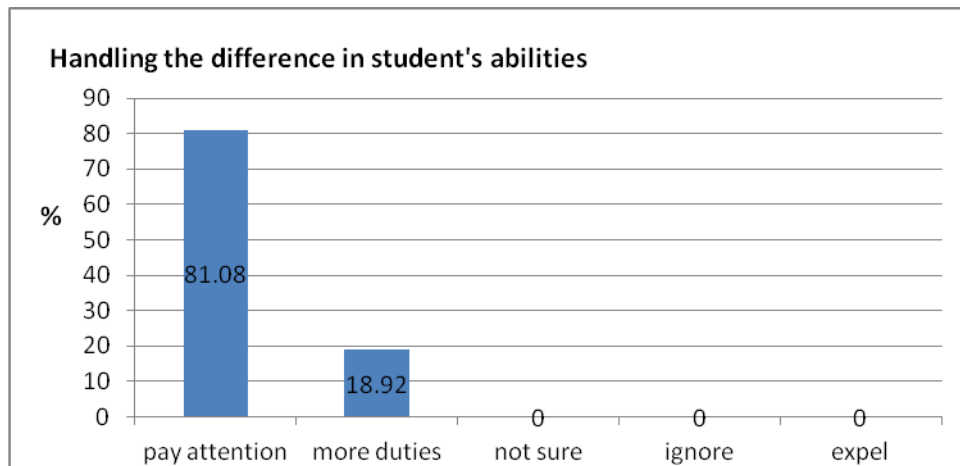


Figure 4.3.5: Difference in the students' ability

It was realized that there was a need to attach a credit to the work preparedness programme. This is aimed at improving the student's enthusiasm to take part and as a result to improve work readiness. Baker *et al.*, (2001: 224) explained that while studying at university, students will have expectations of the industry that they are preparing to enter. They further pointed out that students need to be well prepared for the experience so that disillusionment can be limited or, at least, managed. As part of the questionnaire, respondents were asked to rate the importance of formalizing the work preparedness programme to bear an academic credit. The results below depict the opinion of 99 respondents. 58.97 percent indicated that it was extremely important for DUT to engage in this exercise as shown in **Figure 4.3.6**. This was also supported by 38.46 percent of respondents who felt that this was important. Only 2.6 percent thought that this idea of preparing students for work is not important. Lay and Todd (2011: 120) stated that challenge in the engineering programmes include finding placements for academically and/or practically challenged students. They further explained that if students are both technically and academically challenged, it is almost impossible to find and recommend them for work experience (and maintain a good relationship with the employer).

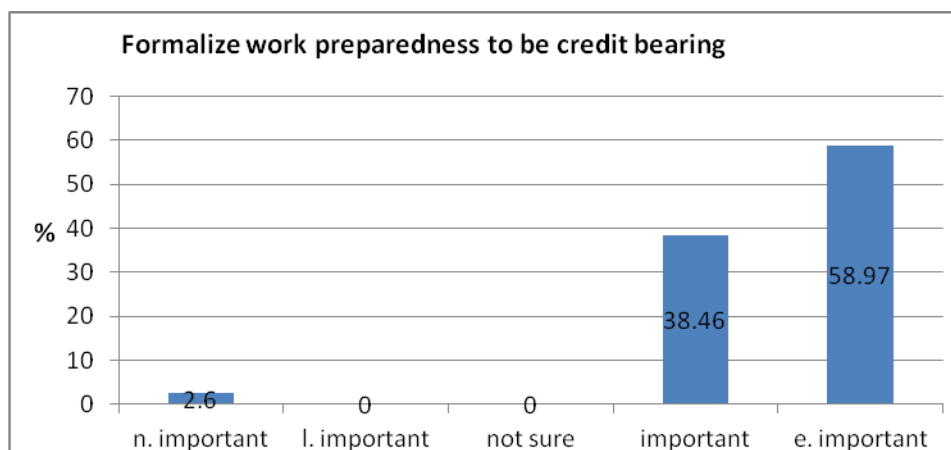


Figure 4.3.6: Work preparedness to bear credit

Ferkins and Fleming (2011: 185) mentioned that in some instances, industry supervisors expect unrealistic outcomes from the student, equally, the opposite can occur where a student is not sufficiently challenged. On the question of readiness of WIL students to perform adequately at work, it was agreed by 66.67 percent that these students were found to be readily prepared as shown in **Figure 4.3.7**. Only 2.56 percent disagreed. This may be attributed to the fact that some employers recruit students that are misplaced or chosen a wrong career. A small percent of 17.95 was not sure whether WIL students are work ready. In some cases you find that an employer would allocate a student to a supervisor who is still new in its employ. This could also result in this uncertainty. Lay and Todd (2011: 118) explained that at the University of Waikato, students enrol in second year a pre-placement paper, a placement paper and in third year a post-placement as well as second placement paper. They also pointed out that the pre-placement paper covers CV and interview skills, and introduces reflective practice and setting learning objects. Students value the 'realism' benefits of Co-operative Education/WIL experiences that improve their employability (Crump & Johnsson, 2011: 291). A study of sport industry expectations of key student and graduate competencies indicated that, to maximize the co-operative education experience for students and to enhance employability, academic programmes within the university need to provide opportunities for students to develop competencies including the ability and willingness to learn, the use of initiative and personal organizational skills (Ferkins & Fleming, 2011: 184).

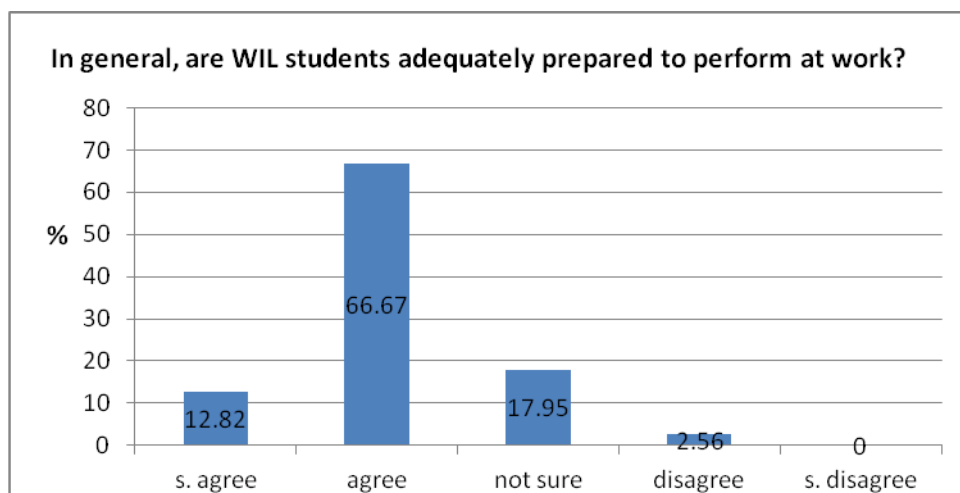


Figure 4.3.7: WIL students' preparedness to perform at work

DUT believes that its adoption of the WIL model implementation of the processes thereof, contributes positively towards the employability and hence the marketability of its students when they graduate. 64.10 percent of employers agreed to this as shown in **Figure 4.3.8**. 2.56 percent disagreed and 5.26 percent is not sure about this. It should be noted that some of the employers graduated from traditional universities where WIL is not compulsory hence they may be immune to this practice. Ferkins and Fleming (2011: 183) pointed out that many sport and recreation organizations use Co-operative Education and work placement programmes to identify potential employees.

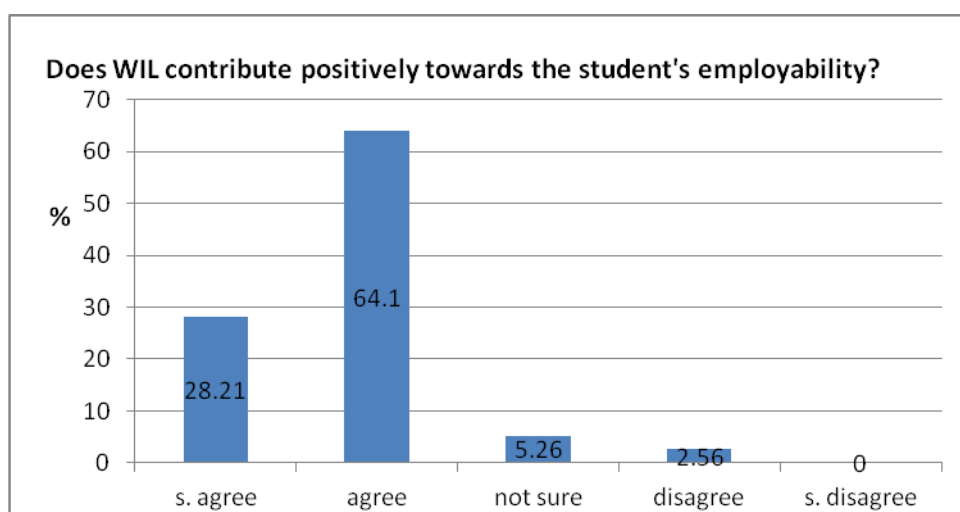


Figure 4.3.8: WIL's contribution towards employability

Industry partners also indicated that they play a role of being a counsellor during the time that they host WIL students. **Figure 4.3.9(a)** shows that at least 72 percent play this role to a large extent. The skill of counselling young student does not come naturally as the practitioner should also assume a role of being a leader and that of managing relationships as shown in **Figures 4.3.9(b) and (d)**. In all Co-operative Education programmes, university co-ordinators are required to manage difficult situations that involve one or all parties – students, supervisors, and other agency personnel (Copper, 2011: 247). This contributes positively to the success of WIL students.

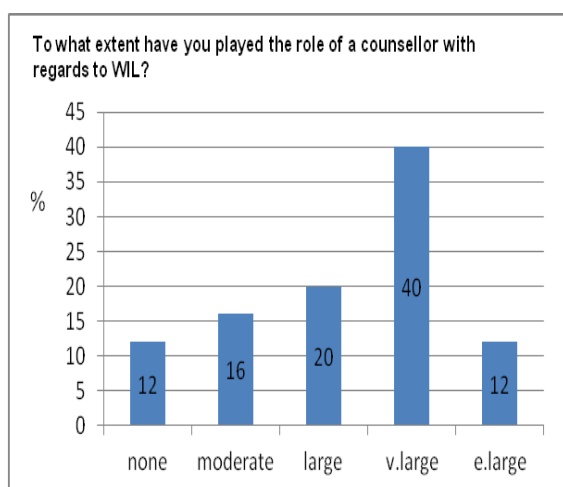


Figure 4.3.9(a): Role of a counsellor

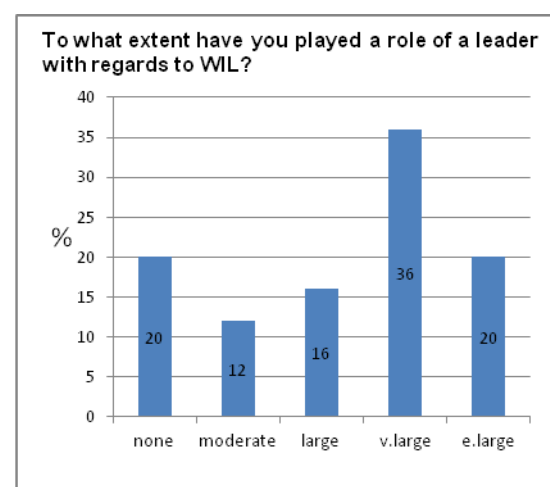


Figure 4.3.9(b): Role of a leader

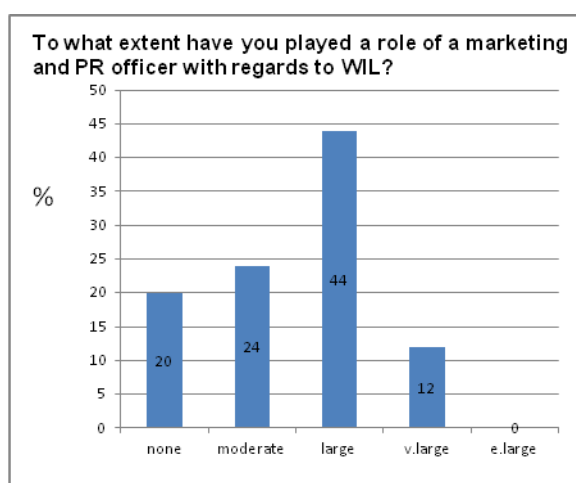


Figure 4.3.9(c): Marketing and PR officer

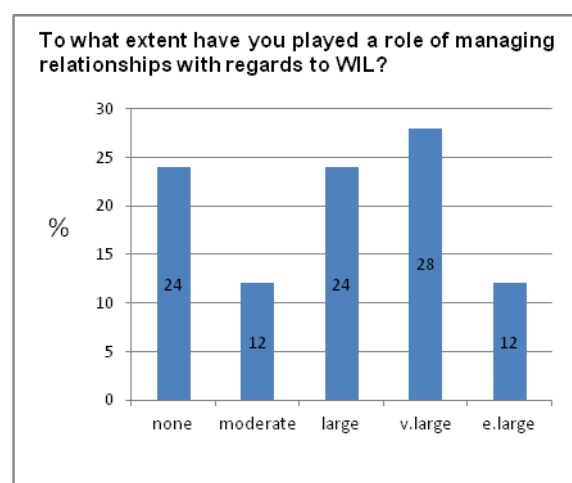


Figure 4.3.9(d): Managing Relationships

The facilitation of WIL and the supervision of WIL students are a public relations and marketing activity. It is interesting to realize that a large percentage of respondents are saying that they have played these roles to a large and very large extent as shown in **Figure 4.3.9(c)**. Ferkins and Fleming (2011: 186) explained that achieving the balance between a well-designed programme structure where those involved are clear about their roles and expectations, and allowing flexibility, especially regarding placement length and timing, is a difficult but essential strategy.

4.3.2 Graduates responses

In one of the questions on the graduate questionnaire, DUT graduates were asked to identify a person that impacted positively on their learning during their WIL period. They were asked on the questionnaire that was designed for them to select one person out of a choice of the WIL Co-ordinator, Industrial Supervisor, University Mentor, Fellow WIL students and Co-worker (other employees). The highest percent of 31.31 was attributed to the Industrial Supervisors or employers as shown in **Figure 4.3.10** below. Firstly, this is due to the fact that WIL students spend the whole training period (which is three, six months or a year depending on the requirements of their academic programme) in the care of the employers. As mentioned earlier on in Chapter 2, Brennan and Little (1996: 89) cited Little and Nixon (1995) who also recognised workplace supervisors are in close and continuous contact with learners during the period of work-based learning. Secondly, in some programmes there is resistance from academic staff to facilitate support for learners that undertook WIL. This is in most cases due to the lack of financial resources or manpower. As a result of this, some students are not visited and they tend to rely on the industry mentor. Therefore, the perspective of employers on work readiness of WIL students is quite significant. It needs to be acknowledged that each student commences their work placement with different knowledge, skills and experiences (Hodges, 2011: 55). Furthermore, each student will have different career aspirations and professional development needs.

There is 14.14 percent of graduates who indicated that fellow students made a positive impact towards their training. Brennan and Little (1996: 91) pointed out that

although students may well have always made use of each other on an informal basis, the interest is now on developing student supported learning in a systematic way. They further explained that within work-based learning, where reported, learner support groups seem to be particularly beneficial for those programmes in which learners are primarily based in the workplace.

It is also interesting to realize that 14.14 % of DUT graduates indicated that there is no one who made a positive impact on them during WIL as shown in **Figure 4.3.10**. This could be attributed to the inexperienced supervisors from the employer's side, misplaced students as well as lack of or poor visitations by University Mentors during WIL placements. This was further unpacked as a matter of concern. When considering the questionnaires, it was found that the majority of the 14.14% of respondents were graduates from the Faculty of Accounting and Informatics in which WIL is not a compulsory module. Furthermore, some of the respondents were old graduates who enrolled during the time when WIL was not a structured module with respect to visits and other forms of student support. Student learning will involve more than skill acquisition and the development of workplace competencies (Hodges, 2011: 55). They will also learn a great deal about themselves, providing an enhanced understanding of their strengths and weaknesses as well as their likes and dislikes.

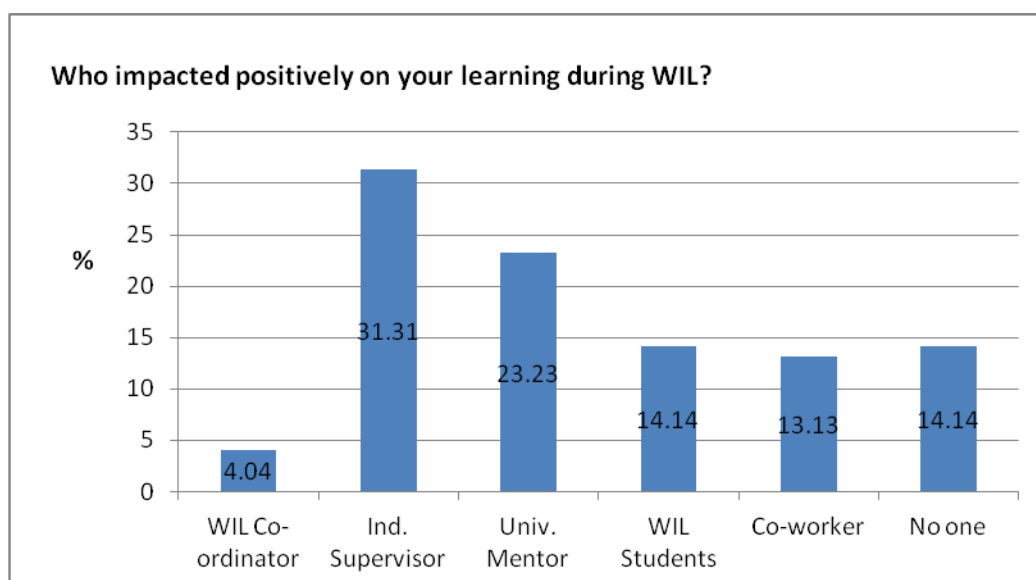


Figure 4.3.10: Positive impact during WIL

A group of 104 graduates of DUT was given a questionnaire that was specially designed for them. **Figure 4.3.11** shows how they rated the learner support impact towards their personal growth. 43.4, 41.6 and 11.50 percent indicated that it was good, very good and excellent respectively. One way of capturing the different, individualized learning that occurs in Co-operative Education is by involving students in critically reflecting on their workplace experiences (Hodges, 2011: 55). According to Brodie and Irving (2007: 15), incorporating critical reflection into the assessable learner outcomes in work-based learning ‘enables students to justify and validate their claims for learning, by using a variety of evidence sources. This also enables them to recognize future learning needs essential for developing a capacity for lifelong learning.

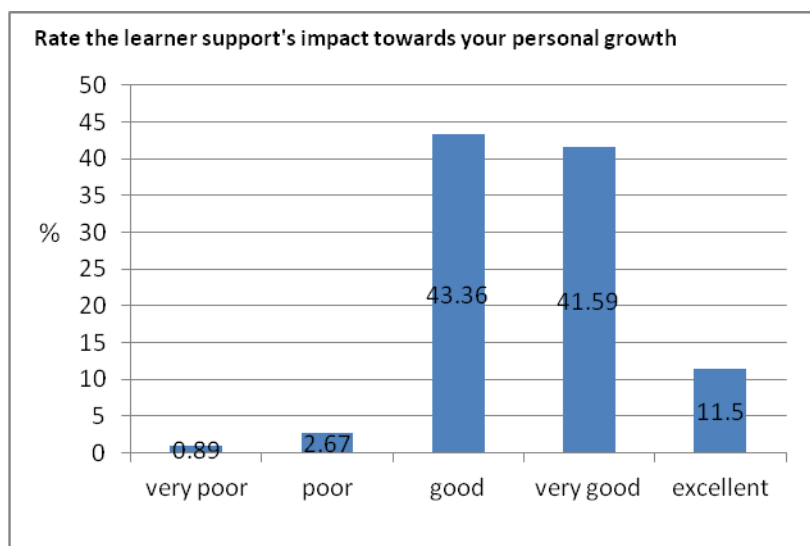


Figure 4.3.11: Learner support impact towards their personal growth

4.3.3 Findings for Co-op Practitioners

Table 4.3.1 shows the responses of university personnel (WIL Co-ordinators, University Mentors and academic staff who are involved in WIL at DUT) with regards to enhancing the support for learners who are undertaking WIL. The results were recorded in percentage. According to **Table 4.3.1**, the regular visits by University Mentors as well as formalizing the Work Preparedness programme to bear an academic credit was extremely important. 65.1 and 65.9 percent of the respondents

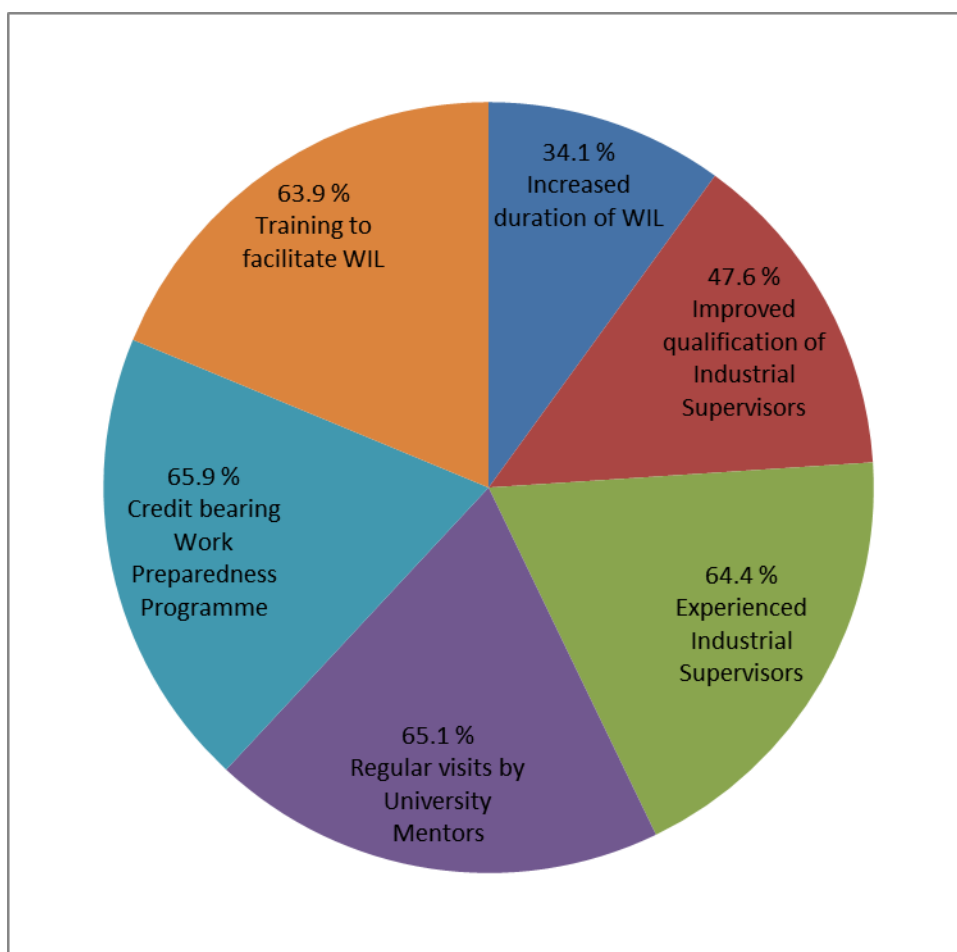
indicated the significance of these support mechanisms respectively. Bates and Madu (2011: 233) reported that the academic convenor, as the university representative, is responsible for the overall implementation of the work placement and the role is not only to support the students but also to challenge them by attending to the kinds of experiences and expectations the placement course places upon them. 64.4 percent felt that the experience of Industrial Supervisors is extremely important as opposed to their qualifications.

Table 4.3.1: Important Factors to Enhance Learner Support

%	Extremely Important	Important	Not Sure	Least Important	Not Important
Increased duration of WIL.	34.1	24.4	19.5	7.32	14.6
Improved qualifications of Industrial Supervisors.	47.6	31.0	9.30	0	11.9
Experienced Industrial Supervisors.	64.4	35.6	0	0	0
Regular visits by University Mentors.	65.1	27.9	4.65	2.33	0
Credit bearing Work Preparedness Programme.	65.9	31.7	2.44	0	0
Training to facilitate WIL	63.9	30.6	0	0	0

Moreover, **Pie Chart 4.3.2** depicts a picture of the order of extreme importance. 34.1 percent of respondents felt that increasing the duration of WIL is extremely important. This is surpassed by over 65 percent that pointed out the extreme importance of visits by University Mentors to monitor the progress and clarify the role of the University Mentors and Industrial Supervisors and the expectation from student. Bates and Madu (2011: 233) cited Marsh and Treseliotis (1996) who pointed out that during Co-operative Education/WIL students anxiety increases when there are no clear expectations, when the student's role is not clearly articulated, and where there is a poor or no integration of the practice back to the previously learned theory (Ross & Elechi, 2002) also cited in Bates and Madu (2011: 233). The work preparedness workshops for students is also extremely important as shown by the over 65% of the respondents in **Pie Chart 4.3.2**. The experience of Industrial Supervisors was identified to be the third in the order of importance whereas improved qualifications took the fourth position as shown in **Pie Chart 4.3.2**. Bates and Madu (2011: 233) stated (referring to Co-operative Education in Criminology) that in Co-operative Educative/WIL, organizational supervisors are expected to

provide an effective and productive working environment for the student, but in the criminology arena it is not uncommon for supervisors to not have tertiary qualifications. They further explained citing (Slocombe, 1993) that this places further challenges into the learning relationship and in order to promote an educational experience the academy is required to provide additional support to ensure that students are provided with the necessary scaffolds to understand and grasp the fine-grained routines in the workplace. One of the difficulties encountered in placing graduate students was the need for supervisors in the employing organizations to have educational qualifications at or beyond the level of the student, thus reducing the pool of possible employers (Rowe, 2011: 333). Training to facilitate WIL was identified by 63.9 percent of the respondents as of extreme importance as shown in **Pie Chart 4.3.2.**



Pie Chart 4.3.2: Order of Extreme importance

Table 4.3.2 shows the some of the qualities, skills and traits that are needed in order to facilitate learner support. This is expressed in percentages. 81.0 percent of the respondents from DUT indicated that having strong networking skills and understanding what Co-operative Education is about are extremely important human resource needs that are attributed qualities of facilitating learner support. This is shown in **Table 4.3.2**. These attributes can be used in widen the links between the university and industry to create opportunities for WIL. Also, 79.1 percent of the respondents thought that telephone manners are an extremely important trait.

Table 4.3.2: Qualities, competencies, capacity needs and personality traits required for Co-op Practitioners to enhance the facilitation of learner support

%	Extremely important	Important	Not sure	Least important	Not important
To have good telephone manners.	79.1	20.9	0	0	0
To be a go getter.	46.2	48.7	2.56	2.56	0
To have social skills.	25.0	37.5	18.6	15.0	2.50
To be an extrovert.	30.8	38.5	20.5	5.13	5.13
To be persuasive.	36.6	51.2	2.44	9.75	0
To be aware of the economics of the country.	43.9	43.9	7.32	4.88	0
To be aware of the politics of the country.	40.0	47.5	7.50	5.00	0
To have conflict management skills.	62.5	35.0	2.50	0	0
To be passionate about WIL.	71.4	30.0	0	0	0
To understand the university policies.	59.5	38.1	2.38	0	0
To understand the widespread of the variety of industries.	52.6	42.1	5.26	2.63	0
To understand the National Skills Development Strategy.	52.4	28.6	9.52	9.52	0
To understand what Co-operative Education entails.	81.0	14.3	0	4.76	0
To have strong networking skills.	81.0	16.7	0	2.38	0
To have good presentational skills.	66.7	23.8	4.76	4.76	0
To have strong public management skills.	60.0	20.9	9.30	7.00	0
To have strong business management skills.	48.8	31.7	9.75	7.32	2.44
To be able to handle rejection.	41.46	46.34	7.32	4.88	0

According to Porter and Stellar (2011: 195) it is important for Co-op Practitioners to work with employers to develop quality placements; it is crucial to prepare students for success in the job search and also to prepare student for success in the workplace through making students aware of appropriate behaviour in the workplace, the value of networking, the opportunity to maximise their learning and their contributions through asking questions and asking managers for more; it is also critical to engage students in reflection before (helps students bring out their expectations), during (helps students view their experience, formulate, and take actions) and after (students sharing their experiences with each other) the placement.

4.4 Summary

Chapter 4 highlights the findings of this research to set out generic key performance areas, profile and competencies of a learner support facilitator for work integrated learning programmes. The conclusion on the preliminary results would accept that the management and co-ordination of work integrated learning requires competencies with attributes necessary to liaise with all the stakeholders such as students, academic staff and employers. The next chapter, Chapter 5, deals with results and outcomes of the qualitative approach.

CHAPTER 5

QUALITATIVE RESULTS

5.1 Introduction

As mentioned earlier in Chapter 3, **Appendices F and H** shows the interview schedules that were conducted separately and independently for participants from the university as well as participants from the employers respectively. In some cases though, some participants especially from the side of the employers preferred to invite more than one representative in order to enable clarifications on the real issues that take place at the training or operations level. Each participant was requested to sign the consent form after having read the letter to respondents that requests them to take part in the interviews. Also, each interview was audio-recorded, permission to record an interview was requested on the consent form. There was no participant who declined this request. All interviews were structured. Most of them took place in the offices of the participant whilst some of the interviews took place in the boardrooms of the workplaces or offices of the department of the participant. All the documents, which included the letter to the respondents which explained the title and purpose of the research, the consent form as well as the questionnaire was sent to the participant at least two days in advance. There was no participants who turned down the request for them to take part in the interview. The researcher must show respect for the participants, acting ethically toward them and, where appropriate, engage participants as co-researchers (Major and Savin-Baden, 2013: 13).

5.2 Interview of participants from different academic departments

Appendix K shows the 15 interview participants from different academic departments that offer programmes which incorporate WIL at the Durban University of Technology. The main interview questions in this category of Co-op Practitioners are as follows:

1. How long have you been involved in the WIL mentorship programme?
2. Have you been trained to facilitate support learners who are undertaking WIL?
3. How often are the WIL students monitored during their training?
4. In your opinion, what are the common needs of students with regards to support during WIL?
5. State a case of learner support that you have handled.
6. In your opinion, is the training to facilitate the support of WIL important? Please elaborate.
7. What are the skills needed to facilitate learner support?

Some of the comments that were made by university mentors and WIL Co-ordinators include the following:-

A university mentor in the Tourism department at DUT alluded to the fact that most of the students do not know the industry that they are going to work for when they graduate. She recommended that student exposure to industries is extremely important. Moreover, students need to know the operations and the business of that particular industry. In order to achieve this, they can be given an assignment to investigate a particular industry before they do a visit. This will give them an in-depth understanding and enable them to appreciate the value of the visit. Dunn, Fonseca and Schier (2012: 137) highlighted the student knowledge and understanding, particularly the ability to integrate theory and practice, had improved. This can also be achieved by hosting company exhibitions that for each discipline, arrangements for guest lecturers to explain the industry expectations. Experience has taught the researcher that factory visits and excursions that are coupled with action assignments with regards to these visits can also produce a good outcome for students in terms of exposure.

The WIL co-ordinator in the in the School of Education at DUT explained that her practice teaching students who are also WIL students are sometimes subjected to abuse by schools in terms of giving them full responsibilities of teaching like fulltime employees with limited training. This defeats the purpose of WIL and is tantamount to cheap labour. According to Drysdale and Mcbeath (2012, 169) citing Gardner and Choi (2007) given the increasing numbers of young adults now pursuing post-secondary studies, the increased prevalence of a post-secondary education has made it more difficult for students to rely only on having a degree to secure employment after graduation. WIL Co-ordinators are expected to take leadership in addressing such issues. The WIL Co-ordinator of School of Education of DUT expressed the need for the training of mentors or supervisors of WIL students who are overseeing the training of WIL students or prospective teachers in the basic education.

A WIL Co-ordinator in the Biotechnology also alluded to the fact that over the years they have noticed a downturn in their student's ability to work with other employees. The WIL Co-ordinator explained that right attitude of his students with regards to taking instructions from their supervisors is sometime not good. Further noticed and experienced a sense of entitlement from the side of students when it comes to financial allowances and stipends that they receive from employers.

In the Food Technology programme, there was a student who also had a bad attitude. The WIL Co-ordinator explained that she would leave the laboratory with the lab coat on, take extended lunch breaks without requesting or notifying the industrial supervisor and walk out of the premises of the employer. Again, it is envisaged that the training of supervisors would equip them with the proper and necessary skills to take leadership and discourage such student behaviour.

5.2.1 Findings and transcripts from Co-operative Education Practitioners

The first difficulty that is related to Work Integrated Learning is that in some programmes students indicated on their questionnaire that it took 6 to 12 months for them to secure a placement. A majority of students at DUT are assisted by the

university to source such placement. This suggests that they need support from the university to source more opportunities. Copper (2011: 245) stated that support begins before a student begins their learning and continues through the placement and, if necessary, after the learning is completed. After having secured a placement, some students have difficulties and issues that they have to face such as the following:

- Financial support for transport fare to get them to work and buying lunch as some companies cannot afford to pay them a stipend. This would mean that Co-op Practitioners must be able to assist by fundraising from the SETAs or any other relevant organisation that can provide such funding. Fundraising is a skill. Therefore training is needed for Co-op Practitioners to acquire such a skill.
- Permanent employees sometimes do feel threatened that WIL students will be considered for their jobs. In some cases they have no respect for students since some of them are young and lack experience. Co-op Practitioners are supposed to resolve such conflicts and inform all workers that WIL is only for training purposes. A quality manager from a food production company indicated that her WIL students work hand-in-hand with Food Technologists in her team in supervising junior staff members. She indicated that she does this to empower those with leadership skills.
- Programmes such as Operations Management where a student is trained to manage the operations of the company. Some employees do not want to take instruction from a student who is placed at a position of authority for training purposes. In this case, WIL students need to adjust very fast and have a backbone to face such challenges and get out of their comfort zones.
- The other crucial need for students is that they should be prepared in terms of CV writing and interview skills as well as work ethics in order for them to develop the drive to market themselves.

- The WIL co-ordinator in the School of Education explained that her students need resources such as teaching material and financial support. In such cases a student must be able to communicate their needs to supervisors. In return, supervisors must be approachable in order for this to work.
- Weak students need to be given a special attention, as it was discussed in Chapter 4. Employers indicated that they would give such students more work and responsibilities to help them find their feet.
- Some employers are exploiting students in such a way that they do not allow them to have sick leave. In some cases, students are not given enough time to concentrate on their projects and assignments.

After having noted all of the above, students need workshops in order for them to be made aware of the fact that a placement is an opportunity for them to be exposed to the real world. This opportunity offers them a chance to be ambassadors of the university. Another prospective student would need to use the same opportunity in the future.

A WIL Co-ordinator from a the Public Relations Management programme pointed out that she was called by one of the Government Departments, which hosts her students, for a special meeting to address issues of students that were not willing to discharge duties assigned to them. These students were also not behaving in an appropriate manner. She also explained that this does happen when a group of students who came from the same class are placed in the same workplace without proper guidance. In such cases, students need strong coaching sessions from time to time. Also, she put a lot of emphasis on the fact that students need to be placed at a site that is relevant to their chosen careers so that they can be productive. She made an example of a good Public Relation Management student who became inefficient because she was placed in an Office Management Technology environment.

A WIL Co-ordinator from the Office Management Technology pointed out that she identifies the need of her students by assessing their performance. She explained that assessment enables her to identify problem areas. This suggests that assessment skills are also very essential. She also mentioned that the work preparation for student is extremely important. The WIL Co-ordinator in the Food Technology programme also supported this when he explained that the shift from classroom to the workplace is very difficult for students. Therefore, they need to be supported until they find their feet. He also expressed a great deal of appreciation for the fact that after a student has spent time in the workplace, they show a lot of maturity in the way they handle themselves and even during the assessment of the presentations that they do to report on their experiences and projects that they undertook whilst in industry. Workplaces need to fulfil commercial imperatives or other objectives, fostering practices and procedures that conflict with the needs of students and university (Keele, Moss, Sturre, and Von Treuer, 2012: 68) citing (Caballero and Walker, 2010).

The Head of Food and Nutrition programme from DUT who also co-ordinates WIL said she instructs her students not to run to their parents when they have concerns in the workplace. This means that she and her mentors should be equipped to address any student issues that are related to the training. According to Keating (2012: 91) citing Drahosz (2010) mentorship, coaching and training must be supported by a mentoring plan which outlines the sequence of events necessary to implement the programme. The Head of Food and Nutrition also pointed out that in her experience she had to deal with issues around sexual harassment whereby the employer had chosen not to believe the student but supported the perpetrator who is a permanent employee. She also alluded to the fact that sometimes these students are placed with employers that are out of the province of KwaZulu Natal where the Durban University of Technology is housed. The training of mentors to handle student issues and capacity building for them to facilitate appropriate support would be very useful.

5.2.2 Learner support by Co-operative Education Practitioners

The support that is needed by students when they are placed in industry includes the following:-

- They need to be given a learner guide or WIL training manual that explains all the details and procedures of work integrated learning.
- They also need to be visited by the university mentor in order to monitor their progress whilst they are still at the stage of finding their feet. It should be noted that students are nervous at this stage. In some cases it is found that these students are afraid to speak up and raise issues of their concerns. This may lead to a learner making irrational decisions like absconding.

In programmes such as Analytical Chemistry from DUT, monitoring is done twice a semester with continuous engagements electronically as well as telephonically. This is a very helpful activity. Co-op Practitioners are offering a spontaneous response in addressing problems especially on the academic side. It helps a lot as some of the students face challenges of not receiving enough support from the industry side as supervisors can get too busy. According to Ferns and Moore (2012: 207) WIL should not be perceived as a quick fix solution to a nation's economic challenges and workforce inadequacies. In some cases, industrial supervisors travel abroad. This leaves a WIL student without guidance and not knowing what to do. Therefore, the support from the university's side should surpass that of industry.

- The university should prepare the students for industry. This preparation should be beyond imparting the academic knowledge. Some of these students have personal matters such as:
 - coming from dysfunctional families where there are fights between parents;
 - some of them are expected to maintain their homes and support their families using the small stipend that they receive;

- sexual harassment in the workplace or in the society;
- HIV and AIDS related matters;
- as well as racism in the workplace.

This suggests that Co-op Practitioners should have counselling skills in order to support such students as these issues may affect their performance.

- The university should also prepare the industry for students in the following way:
 - some industrial supervisors expect higher performance from students, they often forget that these students are there to learn;
 - students are not experts therefore they need guidance;
 - the workplace approval has to be conducted to ensure that employers meet the requirements of training students.

If attention is not given to these issues. This could have a negative impact on the performance of students who are undertaking WIL.

A Public Relations Management lecturer from DUT alluded to the fact that due to a heavy teaching load she does not have enough time to support her students by sourcing out placement opportunities. She went on to explain that, in some cases students would fend for themselves in finding workplaces which exposes them to mistreatment. Mistreatments in her case meant that a student is sent to buy lunch for their supervisors, making tea as well as getting sent to pay personal accounts. Unfortunately, some of these issues only can be picked up when a student has finished the training at the stage where they are being assessed during their presentations, she added. It was noted that these issues can be attended to and resolved during the visits or even avoided by setting the ground rules in terms of expectations from the industry, the university and the student's side before a student is placed. Ferkins and Fleming (2011: 184) stated that students being largely responsible for finding their own placements can result in placements with organisation and staff that the university has not had a previous relationship with.

Their further pointed out that not only does this raise the profile of the university, but also adds the benefit of connecting people in the industry back to the university.

In some cases students are thrown into the deep end without proper supervisor due to lack of knowledge from the employer's side. She recommended that training for both the employers and university staff would go a long way in capacitating these stakeholders and bridging all the gaps. Lay and Todd (2011: 119) explained that in some cases student performance is due to bad employer/student/colleague relationship in which case the co-ordinator can act as an intermediary to try and resolve the issues.

5.2.3 WIL matters to students

In some cases, students do not realize that employers do spend a lot of money when they get them to do induction upon employing them and also when they purchase personal protection equipment (PPE) for them. This is why it is easy for a student to just leave the company without even thinking twice when they get a better opportunity. A WIL Co-ordinator from the Biotechnology programme explained that one of his student's employer did not take kindly to a student who was job hopping. He ordered the student to reimburse the company all the funds that were spent on her; he insisted that the university must make the student write a letter of apology (threatening to no longer train students from DUT if this is not done); he also made the student to walk bare foot because the company actually bought safety boots for her as part of PPE. This was a very difficult situation for all parties involved. Lay and Todd (2011: 119) stated that the student fails or incompletes the work placement if their performance is bad enough to warrant dismissal.

The WIL co-ordinator for the Ecotourism programme from DUT stated that a female student who was placed in one of their employer sites was subjected to sexual harassment abuse by a senior employee. This was traumatising for the student in such a way that she had to be moved to a different employer. In the opinion of the researcher, this was not enough as the student was supposed to be counselled.

The WIL co-ordinator in Analytical Chemistry from DUT stated that some students could not present the findings of the investigations that they undertook during their placements in industry. This was purely due to lack of support in terms of giving direction and leadership from both the industry and university side. Arrangements were made for these students to present at a later stage. This suggests that students always need to be coached. Therefore, anyone who supervises them must have coaching skills.

The Head of Department for the Translation and Interpreting Practice from DUT stated that facilitators of WIL become social workers and counsellors. They are bound to listen to student sorrows, whilst having to make it a point that they do not get emotionally involved. She also mentioned the fact that as a WIL co-ordinator herself, she keeps a box of soft paper napkins because sometimes students get carried away with their challenges and start crying when they relate their problems to her.

A university mentor for WIL students in the Tourism Department described an incident of a student who was hospitalized because of a stress related condition. She further pointed out that such students need a supervisor who has been trained to understand such matters.

In the Public Management programme a student was robbed whilst on his way going to make a presentation for the company that she was working for. This incident was stressful in such a way that the student could not continue with the presentation. It had to be rescheduled. Another student from the same programme comes from a family where the elder brother is on drugs and abusing alcohol. As a result, this student is constantly subjected to violence and verbal abuse. Hence she was underperforming and unable to focus. Some students find it difficult to deal with a loss of a close family member. These are real issues that are affecting real people. Therefore, there is a need for Co-op Practitioners to develop skills to handle these matters with great care.

5.2.4 Training for Co-operative Education Practitioners

Practitioners all over the world know that WIL programme can significantly ease the transition of learning to work and that it contributes to the development of the skills and attitudes of new entrants that make them much more attractive to potential employer (Blom, 2014: 1). Preparation activity is part and parcel of briefing and training of WIL practitioners and support staff in relation to their responsibilities (Blom, 2014: 9). WIL provides a source of potential employees – it also shows up internal training needs, including the need to develop workplace mentors and other job enrichment schemes to enable permanent staff to mentor students (Blom, 2014: 4). A senior lecturer / WIL Co-ordinator from the Biotechnology as well as the WIL Co-ordinator from the Food Technology programme both emphasized the importance of the training to capacitate everyone who is appointed to facilitate learner support for WIL. They related their experiences with regards to being thrown into a deep end. They had to start developing relationships and finding placements without any previous dealings with industry. They also had no idea that communication with industry was very important as it had a bearing on future placement opportunities. Crump and Johnsson (2011: 290) alluded to the fact that Co-operative Education experiences have the potential to enhance staff capabilities and generate networking opportunities if cultivated properly. The White Paper (2013: 9) therefore suggests that ‘training systems, including curricula, need to be designed around close cooperation between employers and education and training providers’.

In some cases a students would need someone that to confide in and therefore they would want to speak to an individual of their choice. This would be someone that they trust. This has a lot to do with a personality trait of the individual that they decide to choose. If this trait or talent can be coupled with some training then such individual can do a better task of supporting such students. The challenges that the WIL students face in the workplace are different from those that they had to deal with whilst they were studying at the university. Therefore, a well rounded facilitator in terms of the skills of people management is needed.

Milne (2007: 7) stated that a typical mentor training programme includes sessions for developing a plan of learning, giving feedback and using reflective learning problem solving strategies with the students. The ability to handle the facilitation of learner support does not come naturally. Facilitators must be trained to perform this challenging work. A tourism university mentor also mentioned the fact that a student would visit her office, sit and start sobbing. Just before she could find out what the matter is, she would also be emotionally drained. Counselors do not cry with their clients. Also, because of sympathy, she would end up sharing her personal information and experiences with students in order to make them feel better. She recommends that there has to be training to assist facilitators to handle such circumstances. This would enable them to give support to such students without getting emotionally involved in the matter at hand.

An Analytical Chemistry WIL Co-ordinator stated that at the present moment he has to shoot from the hip when it comes to facilitating support for WIL students. He recommended that a structured knowledge base for all WIL Co-ordinators so that everybody knew what they were doing. He also stated online registration as one of the areas in which students needed support in. If a new person comes in, they should go through a training programme so that they can fit conveniently. He went further to mention that sometimes Co-op Practitioners have to do counseling without a proper qualification or training. Fleming and Lucas (2012: 56) believe that WIL is a structured educational strategy integrating classroom studies with learning, through productive work experiences in a field related to a student's academic or career goals.

Due to the nature of the responsibilities for the researcher as a link between the Durban University of Technology and external stakeholders such as industry, government departments and nongovernmental organizations, the researcher has also experienced cases where:

- a student was sexually harassed by a senior person at the workplace, counseling was needed to minimize the impact.

- racist comments were uttered to a student, leadership and conflict management skills were utilized to resolve such issues and counseling for that student.
- a student had a mental breakdown in the workplace and therefore had to be sent to a clinical psychologist, learner support was also implemented.

These are few of the many situations that are faced by individuals that support WIL students on day-to-day basis. Lay and Todd (2011: 119) stated that in cases where the relationship is destructive, it is usually in the student's best interest to be withdrawn from the placement, refunded and re-enrolled.

The Head of Department for the Translation and Interpreting Practice from DUT stated that the training of facilitators of WIL is extremely important in a sense that when one has a toothache, they would prefer to go to a trained individual who is competent in the field, a dentist. Also, in her field of translator, she cited, 'if you want a professional job to be done then give it to a professional translator'. Therefore, this suggests that in this particular field of facilitation of learner support, if training is available, practitioners should be sent for training, she added. She further explained that the main challenge is that this facilitation is in many cases imposed on lecturers who already have a heavy load of lectures. This is why it is seen as a burden. Universities are employing lecturers without informing them that they will at some stage be required to co-ordinate or facilitate WIL. Practitioners of WIL must be taught the skill of the trade by subjecting them to proper training. The only training that is available in little pockets is workshops and information sharing with colleagues from other Universities of Technology. This is not sufficient.

5.3 Comments and transcripts from employers

Appendix L shows the interview schedules for 20 participants from different employers that are involved in placing and training students for WIL. The main interview questions in the category of employers are as follows:-

1. Please classify your organisation in terms of industry group or sector.
2. Please state your field of expertise and current position.
3. How long have you been an industrial supervisor or involved in the training of students for WIL?
4. Is the support that is currently given to learner who are undertaking WIL sufficient? Please elaborate.
5. Have you received any kind of training to facilitate support for WIL students?
6. Do you think you need this type of training? Why?
7. In your opinion, what are the common needs of students with regards to learner support?
8. State a case of learner support that you got involved in?
9. What are the skills that are needed to facilitate the support for learners?
10. Do WIL students display the necessary 'know how' to meet workplace expectations after completion?

5.3.1 Learner support for employers

The production manager in the food industry from Iqlaas Food stated that the support of learners that are placed in industry by the university is slowly fading. He pointed out that in the past, during the time when he was a student, this support was intensive and focused on the development of the students for the benefit of the country. Lately, some employers are only interested in the business of the day. As a result, they use students as cheap labour. Also, there should be continuous

communication between the university and industry in order to clarify issues, especially for new employers. Copper (2011: 245) explained that Co-operative Education is not successful without support being provided to the student, the instructor or supervisor, and to the organisation. He further pointed out that support takes many different forms, from administrative assistance to educational support.

A human resource leader in an engineering company from Special Cables stated that the support is not sufficient since in some cases there are no visits from the university side to guide the process of training of students as well as ensuring that the training is relevant to both the employer's and student's needs. Students who feel low support and low challenge are likely to experience a state of stasis where learning grinds to a standstill and they mark time (Milne, 2007: 5). The training co-ordinator at Ethekwini Municipality also stated that the support for learners by institution is not what one would want it to be. However, when she meets challenges it is easy for her to pick up the phone and call university mentors as she is always in touch with them. This is also viewed by the researcher as a skill that is needed for supporting learners.

The Head of the Department from Sugar Milling Research Institute in Durban alluded to the fact that a facilitator of student training must have skills such as empathy, communication skills, understand the terms and conditions of the training and have access to the necessary resources to assist with issues in the non-technical side as well as dealing with personal conflict. Dressler and Keeling (2011: 267) pointed out citing Coll, Taylor and Grainger (2002) that research suggests that some competencies such as communication and interpersonal skills are more readily developed within the workplace than in the classroom. On the technical side, a facilitator must develop a skill not to tell all the answers but guide a student through the thinking process so that the student can come-up with an answer on their own. Milne (2007: 4) stated that good mentors will not judge or instruct; they will facilitate or interpret and empower students to arrive at their own decisions and conclusions. She further explained that good mentors will allow the students take risks, but be there for them to provide ongoing support where necessary.

5.3.2 Training for employers

A training manager of a large chemical company by name of SudChemie-Clamart indicated that in his organisation, all managers have to attend a coaching course as part of a support system for their subordinates. If this type of training is important for capacitating managers who oversee and support matured employees. Then it will be even more essential for industrial supervisors who facilitate support for young prospective graduates. Milne (2007: 7) pointed out that although mentors are experienced practitioners, they may have difficulty converting 'what they do' into a developmental learning experience for someone only partway through their professional education. A production manager from Iqlaas Foods also pointed out that training for supervisor is very important because they would know what is expected of them. If such training is not done, then there is a danger of supervisors abusing students. In some cases, the students will be regarded as cheap labour. This could derail the agenda of co-operative education and skills development. He further pointed out that in some cases, training is important for a person that manages the supervisors of students in a workplace. He also emphasized the fact that WIL is the way to go in preparing students for the workplace, '*there is no other way*' he said in his own words. Most of the theoretical subjects that are taught at the university are confusing and difficult to understand, he went on. Students tend to understand these concepts when they have real life experiences in industry. It would make it worth their while such programmes are coupled with trained supervisors.

A training co-ordinator in the South African Navy indicated that technical people cannot do mentoring. The training can assist to build capacity since mentoring requires an individual to also attend to social issues of the trainee. Another training co-ordinator from the skills unit of Ethekewini Municipality said that training is important in empowering a facilitator to deal with different personalities. She also indicated that the municipality has a wellness programme that caters for counselling and the related matters, but a training course for a person who is always in contact with the student would be ideal for the purpose of immediate support. Edwards, Martin and Rees (2012: 24) explained the matching of students expectations to projects and supervisors (as cited from Martin and Leberman, 2005) and providing opportunities for the student to build industry relationships (as cited from Martin,

Fleming, Ferkins, Wiersma and Coll, 2010) are both important considerations. A human resource office at the South African Breweries explained that their company already has a training course that is compulsory for all supervisors and managers to attend. This suggests that a similar type of training is important to be designed to assist companies that do not have an in-house training programme.

A project manager in a detergent manufacturing company from Geochem said that it is not possible to detect the behavioural pattern of a WIL student during interview sessions. Hence, a person who is going to oversee these students on day-to-day basis should be equipped with all the skills that they would need in order for them to be able to use these skills in any circumstances. It should be noted that supervisors in general have the technical training, but they are not trained to supervise. Therefore, the training to capacitate them with supervisory skills will definitely come in handy. A laboratory manager from Sudchemie-Clamart said that each supervisor has their own personality, some individuals are abrupt and grumpy by nature and other are more polite and open door. Training can help to make them aware that students are actually nervous in this new environment and they would normally feel intimidated, which makes it difficult to talk or ask for guidance. Hoskyn and Martin (2011: 175) also stated that it is not uncommon for students to report nervousness at the outset of WIL. Therefore, one needs to adjust the attitude. He went on to explain that some students are high maintenance, which means that the supervisor will have to put everything that they have got to support them so that they could find their feet. This is necessary in some rare cases, but would be tantamount to spoon feeding them and it is time consuming. Milne (2007: 4) cited Daloz (1986) who explained that support and challenge have been identified as the two factors which are most critical to the creation of a successful relationship when supervisors are helping students to learn. In general, students are expected to take initiative and be proactive as supervisors have other responsibilities of running the business. The best mixture, resulting in students achieving growth in learning, is a high amount of support combined with a high amount of challenge (Milne, 2007: 4). This suggests that a training course that will include promoting awareness of this nature should be developed and offered as an induction for new facilitators.

5.3.3 Needs of students

A production manager from Iqlaas Foods stated that WIL students need supervisors with the relevant technical qualification for academic support. They also need someone with skills in people management. He also said that in some cases it is found that students that graduated from the same class are not equivalent in terms of intellectual capabilities. This suggests that the performance would not be the same. This was also found to be a reality earlier on in Chapter 4. Some of the students find their feet quicker and others would take longer. Simpson and Swirski (2012: 239) highlighted that WIL can foster the capabilities of students across diverse sites of practice.

A human resource leader from Special Cables stated that students need to be properly coached about the expectations of the employers. At the same time, supervisors must bear in mind that students are there to learn. Hence they are bound to make mistakes. In some cases it is because they are nervous. Milne (2007: 5) pointed out that the worst combination of all for students is that of high challenge and low support. She further explained that students who feel that their supervision is like this are likely to retreat from the situation and even walk away. Also, students can be going through stressful situations as some families expect these students to support them financially using the small stipend that is paid to them by the employer during the training. This is because of the misconception by parents that these students are already working on fulltime bases. Another training coordinator indicated that the training for degree purposes that he received as a social worker assisted him in addressing such student issues.

A human resource manager from Buckman Laboratories indicated that it is important for WIL students to undertake a safety training course especially if they want to be placed in a chemical sector. They also need guidance towards their pattern of behaviour and attitude. It was also mentioned that students need to be given exposure to the relevant industry. They also need learn to be proactive as well as learn the economics of the company so that they can make a meaningful contribution to the employer's core business. Learners also need to be taught life skills since they are in most cases eager to learn more. They also need to realise the value of

productivity, said a Research and Development Chemist from a detergent manufacturing business (Geochem).

In Ethekwini Municipality it was found that learners experience difficulties when it comes to CV writing and interview skills, irrespective of the language that is being used to conduct the interviews. A laboratory manager from Sugar Milling Research Institute alluded to the fact that students would need assistance and guidance with their projects. She also pointed out that these projects are undertaken by students to benefit the company. In most cases, students take pride in doing them, she mentioned.

5.3.4 Cases for learner support for WIL

In some cases it is found that a student is faced with difficulties in such a way that in their opinion, suicide becomes the only solution. A supervisor would need counselling and problem solving skills as this does affect the student's performance at work. The production manager from Iqlaas Foods pointed out that a mentally stable workforce is a productive workforce. He also said that in order for a workforce to remain mentally stable, it needs a supervisor with strong leadership skills.

A human resource officer from Dulux-Akzonobel shared that one of their chemical engineering students admitted to have a drinking problem. He was supported in such a way that a company psychologist was asked to help him by counselling in order for him to deal with this problem. Unfortunately, the company had to eventually expel this student as he kept on reverting to his habit. Also, in the same company, another chemical engineering student was negligent when operating the reactor. This caused the company to lose a lot of money. This student was sat down with a view to find out whether he had problems. The negligent behaviour of this student carried on till the company decided to initiate a disciplinary hearing. The health-care practitioner and/or HR officer must ensure at all times that they are extremely sensitive and aware of the difference between substance abuse and substance dependency (Botha *et al.*, 2014: 184).

A human resource officer from Anchor Yeast informed the researcher during an interview that their company had a student who had a high rate of absenteeism. This was in such a way the company wanted to initiate a disciplinary action. Before this was done, this student was counselled in finding out what caused this behaviour. It was found that this student had personal problems that caused this behaviour. At the same time another student was abusing the sick leave privilege. It emerged that these students needed guidance and intense counselling through their personal problems as one of them had found out that he is HIV positive. This was related by a human resource practitioner in a food industry. This human resource officer also mentioned that some of these cases are odd in that you find that a student:

- is afraid of heights, he/she cannot climb a ladder in order to operate the reactor in the plant.
- does not want to work shifts, because there is trouble at home.
- had skin irritation when they used a particular chemical in the laboratory.

There must be a provision to accommodate such students or at least guide them towards considering alternate careers.

A training co-ordinator in an engineering company (SI Group) revealed that the financial situation and the living conditions of some of these learners is bad in such a way that some of them live in a shack. Living in such conditions implies there is no electricity, in summer it is very hot, on rainy days there is a possibility of water leaks, during winter it is extremely cold. On the other hand, there is a lot of social problems such as crime as well as lack of proper sanitation. Hence, one can deduce without a doubt that these learners are already stressed. They need someone who will understand their frustrations and motivate them to work even harder so as to improve their lives.

A skills advisor at the Chemical Industries Education and Training Authority (CHIETA) said one company had an exceptionally good student whom they were

planning to employ on a permanent basis. This student was involved in a car accident. The company decided to assist him through the process of dealing with the trauma. A team of facilitators from a research institute that employs students for work integrated learning collectively said that in the past they had students who had to be assisted in matters that affected their personal lives. Training can also make the facilitators of learner support aware that such skills and traits are needed to assist students.

5.3.5 Students showing commitment

A production manager from Iqlaas Foods stated that to some extent, students do show the knowledge of what they learned in theory. He stated that in the past, his company wanted to empower its unskilled employees who were with the company for years by giving them responsibilities of managing quality control. This had proven to be a very difficult exercise for these employees. But when this same responsibility was given to students, they performed very well. This indicated to the company that what they are learning in theory makes them different from unskilled employees. Some students are showing a lot of initiative, this encourages companies to take part in this type of training. Also, as a result of this, such students become eligible to be employed on permanent basis. A research and development chemist who took part in this study explained that when the WIL students graduate they become practitioners in their fields. Some students would challenge the processes that are implemented by the company. They do this in a positive way, whilst comparing with the theoretical information that they learned in a classroom.

5.3.6 Skills needed by supervisors to facilitate learner support

Given the current situation of students who have challenges in communication and language skills it is important for a person who oversees them to be able to come to their level and speak a simple language in order to give a clear instruction on what needs to be done. Therefore, the skill of watering down a highly technical language to a language of an interpreter is very important, especially for student who are new

in the training. It should always be remembered by the person in charge of the student that they are nervous and bound to make mistakes. Hence, the skill of making them feel comfortable and welcome is also very crucial. Milne (2007: 5) stated that the best description of the relationship between the student and mentor should be 'professionally friendly'. Dressler and Keeling (2011: 267) cited Eames and Fleming (2005) who found that in their study that incorporated industry and accreditation-driven learning outcomes, WIL students reported learning personal and work skills such as oral and written communication skills, interpersonal and leadership skills, time management, organizational and planning skills, team work and confidence. These important aspects were also pointed out by an industrial chemist who further went on to say that supervisors of WIL students have to be able to instil a character of honesty in the trainee as this is an important factor in the analysis and production of any chemical industry.

A Human Resource officer from Iqlaas Food said it was essential for a facilitator to be approachable and open so that it is easy for a learner to communicate their difficulties and ask questions. She also said that some of these skills would be developed during the years of experience but training would help speed-up the process especially for the beginners in learner support facilitation. She made it very significant that it is important to give out clear instruction and monitor the progress in terms of how it is carried out. This is tantamount to good support system.

A Chemical Engineer from Plascon who is also involved in training students indicated that the training for facilitators should be structured in such a way that it teaches them to structure their plan of the duties so that students can achieve the necessary outcomes. According to Brown, Butler, Field, Gamble, Kift and Mcnamara (2012: 7) citing Carini, Kuh and Klein (2006) WIL is also recognised as contributing to student engagement which links to desirable learning outcomes such as critical thinking. A skills advisor from the Chemical Industries Education and Training Authority made an input that facilitators need to have an understanding and keep up with the training legislation of the country as it change now and then. He further pointed out that facilitators need to develop a skill of being able to identify a learner who has challenges or a learner who is exceptionally good. In some cases, he said, you find that a learner would challenge a supervisor in a way of wanting to know

more about the processes in the plant. Such learners are often misunderstood. They are sometimes considered to be arrogant and insubordinate.

A human resource development practitioner in an acid manufacturing industry from Foskop alluded to the fact that guidance and leadership skills are needed in facilitating learner support for WIL students. He further pointed out that the company that he works for offers a supervisory development programme that equips managers and supervisors with managerial skills. A quality assurer from this same organisation (Foskop) emphasized the fact that supervisors from both the workplace and university must have the skill of enforcing safety issues to the learners. This should be done in such way that learners are able to get the message but at the same time they should be able to approach the supervisor for assistance. It is important for a supervisor to be approachable to students and his or her subordinates. This would improve communication, he said. It was also mentioned that a facilitator should be able to motivate the learners. Milne (2007: 5) pointed out that it is also important that mentors maintain a professional balance in their relationship with the students. She further explained that the mentor/student relationship can be viewed on a spectrum that extends from the highly personal at one end to the highly professional at the other.

5.4 Discussion on responses from the open-ended questionnaires

Different cohorts of participants for the employers and the university were asked to fill a specific open-ended questionnaire. These questionnaires are shown in **Appendices I and J**.

5.4.1 Perspectives of Co-operative Education Practitioners

The main interview questions are as follows (see **Appendix F**):

1. Have you worked for any other UoT in the past, except DUT? If yes, please specify.

2. Have you worked for an industry that is relevant to your field of expertise? If yes, please specify.
3. How long have you been involved in the WIL mentorship programme?
4. Have you been trained to facilitate support learners who are undertaking WIL?
5. If the response is yes for Question 5 above, please elaborate on the training that you received.
6. If the response is no for Question 5 above, do you think you need training in this type of training? Why?
7. Have you conducted any follow up to locate your graduates?
8. If yes for Question 8 above, what is the outcome in terms of the following:
Unemployment?
Employment?
Further studies?
9. What does your department require from the institution with regards to the facilitation of learner support? Mark the appropriate block.
10. Are you familiar with the WIL policy?
11. Is the WIL policy in line with the needs of your programme?
12. What changes do you think should be made in order to improve performance on the learner support facilitation?

In terms of what needs to be improved in the facilitation of learner support, industrial supervisors and university mentors should liaise with one another so as to communicate in the same language to students. This can also assist in building a stronger relationship with one another. Hence the skill of building and maintaining

relationship is important and should be instilled. It was stated that university must provide the latest equipment in order for students to learn. This suggests that the university should actually train and equip its employees with fundraising skills so that new equipment can be purchased. Also, if the relationships with industry are well managed, visits can be arranged so that students can familiarise themselves with equipment that is not available in the university. Ferkins and Fleming (2011: 182) explained that an important part of the supervision process includes communication between the university mentor and the industry supervisor facilitating active and applied links with the industry for the university staff. One of the university mentors stated that research should be undertaken to help improve the performance on facilitation of learner support.

Some of the mentors attended workshops that were co-ordinated by an accredited mentorship facilitator. This workshop that was hosted by DUT was found to be fruitful. Perhaps it should be transformed in to a short course and offered as training. It was also indicated that university mentors should be placed in the worksites so that they can be brought up to speed with the latest technology. This would be very helpful as some of the mentors do not have industrial experience. Attributes such as team work were identified to be very significant in preparing students for the workplace in each academic department. According to Brown, Butler, Field, Gamble, Kift and Mcnamara (2012: 8) WIL is generally viewed as a means of developing graduate attributes and employability skills. Training was also recommended by all mentors owing to the complexity of issues involved with WIL. This training should be coupled with the general structure of WIL, methods of maintaining databases, student readiness and basic level of competence required before embarking on WIL programmes as well as monitoring and follow-up to keep abreast with new developments and requirements. Students need support on workplace skilling, CV writing skills, report writing skills, time management, punctuality and integrity.

5.4.2 Opinions of employers

The main questions were as follows (see **Appendix H**):

1. Please classify your organisation in terms of industry group/ employment sector.
2. Please state your field of expertise and current position.
3. How long have you been in the current position?
4. Have you been employed in any other industry in the past? Please specify.
5. How long have you been an industrial supervisor or involved in the training of students for WIL?
6. Is the Work Integrated Learning (WIL) programme responding to the needs of your industry?
7. In your opinion, are the learners properly supported during to do WIL?
8. Would a lack of support to learners contribute to their failure? Please elaborate.
9. How do you deal with the difference of the student's ability in terms of performance at the workplace?
10. Upon graduation, do you find a well supported learner better suited for the needs of your industry? Please elaborate.
11. What are your views on the co-operation between the university and your industry?
12. What possible changes would you like to see introduced with regards to learner support?

A chemist in a sugar milling industry from Tongatt Hulett stated that a learner who is well supported develops confidence and self-esteem. She further explained that where there is a lack of support in terms of monitoring and giving feedback, students get frustrated and feel abandoned. This may lead to poor performance. The science and mathematics subject Head of Department of Education (Sekusile High School) who is involved in mentoring students that are undertaking practice teaching made a comment that in some cases, a WIL student teacher that is supported appropriately can be innovative and dynamic. Crump and Johnsson (2011: 291) stated that other employers mention the value of students bringing fresh ideas to their work practices, the opportunities for their staff to practice mentoring skills, the opportunities to influence curriculum design and even develop research-based initiatives. It was also mentioned that support can keep these learners motivated and equip them with courage. Hoskyn and Martin (2011: 175) cited the discussion by Burchell and Hodges (2003) that explained the fact that the development of the soft skills is more difficult if a student is not fully integrated in the organisation. Another colleague from the Basic Education sector who is manager, explained that mentors that are overseeing underperforming students should exercise leadership skills and patience as some of these learners are shy and reserved. They should encourage such learners to open-up but they should not tolerate negative attitude from learners. Likewise, frequent interactions with real workplaces and workplace-related problems assist students to prepare themselves for the challenges awaiting them, and introduce them to the 'soft skills' required for being a good employee and a good citizen says the president of Southern African Society of Cooperative Education (Ori, 2014: v). Also, these learners should be praised when they have shown their strengths and be encouraged to work on improving their weaknesses as it was pointed out by the science teacher and mentor. A chemical engineer from Metallica stated that WIL students adapt quickly in the workplace when they are supported. He also explained that some support is given to students but it needs a lot of improvement. Training of supervisors and mentors can assist in terms of bringing awareness on what they are expected to do. Communication between the university and employers was identified to be an important commodity. This can also be incorporated in the training as part of awareness.

A physical science teacher from Sishosonke High School who is involved in mentoring practice teaching students says he was given students to oversee but was not informed on what to do. It is believed that the training of all mentors and supervisor will also address issues of awareness. Teachers should encourage students to plan their task and goals more, as well as reflect upon their experiences at placement systematically and constructively – practices that are not common today (Keele, Moss, Sturre, and Von Treuer, 2012: 68) citing (Owen and Stupans, 2009). A school principal from Okumhlophe High School indicated that if a WIL student is underperforming in the workplace they should be subjected to disciplinary action. This will not be a solution as these students are still novice. They need the relevant support, not to be subjected to a disciplinary action. It is believed that training can also assist in addressing such issues. Another principal from Umfolozi High School recommended that a mentor should sit down with the underperforming student and find out what the challenges are. In the opinion of the researcher, this would be a good practice. But the mentor should realize that the student can also share challenges that could be very difficult to handle. Hence the training will equip them with the necessary skills is needed. According to Brown, Butler, Field, Gamble, Kift and Mcnamara (2012: 7) citing Kane, Healy and Henson (1992) during WIL experiences, students are provided with mentoring and training which strengthens their transferable skills and abilities, solidifies their sense of work ethics and enhances confidence in their job performance. Whilst learner support is essential, students should also be given a space to discover their potentials. Students who are high fliers should be given more complex assignments. The other advantage of supporting learners is the provision of an opportunity to identify and develop talent for retention. Learners should be made to understand that the experience that they gain is directly proportional to their efforts. Debriefing sessions should be arranged so that learners can get an opportunity to give feedback and share their experiences. The teachers offers guidance and support that enable students to redress their weaknesses, utilize their strengths, and formulate realistic learning outcomes (Keele, Moss, Sturre, and Von Treuer, 2012: 69).

A Regional Manager in the agricultural export business from PPECB pointed out that softer skills such as communication, body language, report writing and attitude need to be improved in the learners. It was also emphasized that with regards to learner

support, every supervisor or mentor should always be in constant contact with the students that they oversee in order for students to be given the right direction. Also, some students are very intelligent, they need to be encouraged to take up more challenging work or projects without belittling the authority of the workplace supervisor.

5.5 Open-ended questions for WIL students and graduates

The last question on the questionnaire of both the students and graduates was open-ended in order to get their views on the qualities that they expect of their mentors and supervisors. This is in **Appendices C and D** respectively.

5.5.1 Views of students

The question posed to students include the following:

What kind of characteristics on qualities must the industrial supervisor and the university mentor have in order to facilitate support for learners?

Table 5.5.1 is a summary of what respondents believe are the desired characteristics and qualities that an industrial supervisor must have. (The percentages are per option. Totals would not add up to 100% as multiple responses were allowed). Dunn, Fonseca and Schier (2012: 136) citing (Meeus et al., 2006) described the general characteristics of a portfolio to be student-centred, competence-orientated, cyclical with regard to action and reflection and multimedia orientated.

Table 5.5.1: Desired characteristics and qualities for industrial supervisors

	Frequency	Percent	Valid Percent	Cumulative Percent
Good leadership skills and have a friendly disposition	11	5.9	6.7	6.7
Must be patient and be a good listener	5	2.7	3.0	9.7
Provide proper guidance	20	10.6	12.1	21.8
Good leader, positive attitude, tolerant and patient	9	4.8	5.5	27.3
Should have the necessary qualification and experience	10	5.3	6.1	33.3
Good leadership, organizational and problem solving skills	5	2.7	3.0	36.4
Industrial supervisor should be available to provide students with the necessary assistance	7	3.7	4.2	40.6
Supportive and encouraging	22	11.7	13.3	53.9
Understanding, encouraging and approachable	11	5.9	6.7	60.6
Proper technical knowledge	1	.5	.6	61.2
Ensure that student obtains relevant experience	5	2.7	3.0	64.2
Good leader, open-minded, role model	4	2.1	2.4	66.7
Understand learner's capabilities and offer proper direction	1	.5	.6	67.3
Ability to explain what an analysis is and its impact	2	1.1	1.2	68.5
Supportive, helpful and have good work ethics	4	2.1	2.4	70.9
Supervise the laboratory technicians to delegate work and give instructions to co-workers	1	.5	.6	71.5
Good communication skills	6	3.2	3.6	75.2
Friendly and approachable	5	2.7	3.0	78.2
Must have a good knowledge of the subject and someone who is friendly and have good listening skills	14	7.4	8.5	86.7
Open-minded, knowledgeable and experienced	8	4.3	4.8	91.5
Flexibility	1	.5	.6	92.1
Knowledgeable, motivated and have a great personality	8	4.3	4.8	97.0
Must be assertive, caring and knowledgeable	2	1.1	1.2	98.2
Enthusiastic, intelligent, friendly and understanding of learning areas	3	1.6	1.8	100.0
Total	165	87.8	100.0	
System	23	12.2		
Total	188	100.0		

Table 5.5.2 is a summary of what respondents believe are characteristics and qualities that a university mentor must have. (The percentages are per option. Totals would not add up to 100% as multiple responses were allowed). Edwards, Martin and Rees (2012: 24) warranted that by being open minded, observing, listening, asking questions, preparing documents, reflecting and requesting feedback, students develop self-confidence, people and communications skills supported by their supervisor's positive reinforcement, criticism and feedback.

Table 5.5.2: Desired characteristics and qualities for university mentors

	Frequency	Percent	Valid Percent	Cumulative Percent
Supportive, committed and understanding	28	14.9	17.8	17.8
Good people management skills	6	3.2	3.8	21.7
Ensure that student obtains relevant experience	7	3.7	4.5	26.1
Ensure that all requirements of WIL are achieved	5	2.7	3.2	29.3
Must be a specialist in one or more areas of operation	4	2.1	2.5	31.8
Should have the necessary qualification and experience	4	2.1	2.5	34.4
Regular visits to monitor learners progress	10	5.3	6.4	40.8
Proper theoretical knowledge	4	2.1	2.5	43.3
Proper communication with industrial supervisor to ensure a satisfactory WIL Programme is in place	3	1.6	1.9	45.2
To find learners especially those that excelled in their studies good placements	1	.5	.6	45.9
Good communication skills	11	5.9	7.0	52.9
Should be available to assist learners	14	7.4	8.9	61.8
Should have the necessary qualification and experience	2	1.1	1.3	63.1
Must be communicative, informative and willing to provide assistance to learners doing projects and presentations	1	.5	.6	63.7
Outspoken, open-minded and a good listener	8	4.3	5.1	68.8
Must be able to identify and correct students mistakes	3	1.6	1.9	70.7
Understand learner's capabilities and offer proper direction	5	2.7	3.2	73.9
Friendly and approachable	11	5.9	7.0	80.9
Good understanding of the industry	5	2.7	3.2	84.1
Provide assistance with completing technical reports	1	.5	.6	84.7
Should have a passion for the job and not the benefits that are received	3	1.6	1.9	86.6
Should know the subject content, be friendly and able to motivate	12	6.4	7.6	94.3
Must be honest and professional	3	1.6	1.9	96.2
Must give constructive criticism	4	2.1	2.5	98.7
Good leadership, organizational and problem solving skills	2	1.1	1.3	100.0
Total	157	83.5	100.0	
System	31	16.5		
Total	188	100.0		

These should be inforce because the students may withdraw their commitment from either the university or the workplace, also impairing effort and learning (Keele, Moss, Sturre, and Von Treuer, 2012: 68) citing (Tyler and Blader, 2003).

5.5.2.1 Responses from graduates

The questions were as follows:

1. What kind of characteristics on qualities must the industrial supervisor and the university mentor have in order to facilitate support for learners?
2. What workplace skills and techniques were learned during WIL?

5.5.2.2 Qualitative findings

These findings highlight the response of graduates for open-ended questionnaire: Having analysed the graduates feedback, it is found that the feedback is consistent with Knight and Yorke's (2003) model where development is categorised within four domains: Understanding, Skills, Efficacy Beliefs and Metacognition – USEM (Willis, 2010, 3).

'I would think that support to learners is essential. We need guidance and direction from the lecturers'.

'Understanding and helpful – definitely not a dictator'.

'Understanding of the different cultures'.

'Must have good listening skills, give proper instructions, be able to motivate learners to show initiative, be able to provide assistance with effective feedback'

'More visit by the lecturers'.

'Academic staff to be familiar with industry expectations from learners'.

Simpson and Swirski (2012: 239) highlighted that an increase in student numbers, alongside greater expectations for such experiential learning from a range of university stakeholders, has led to this burgeoning of WIL practices.

‘Interaction with the institution and workplace is essential’.

‘I worked in a large organization and it did influence learning as I was exposed to a lot’.

‘General office duties hands on’.

‘Must be patient, understanding and approachable’

According to Mthembu (2013: 3) graduates are trained to interact and they are able to work with co-workers and supervisors. **Figure 4.3.10** in Chapter 4 is talking about the 31.31% and 13.13% of supervisor and co-workers who indicated that the graduates have the positive impact during WIL respectively.

5.6 Conclusions

The general feeling of all facilitators is that students who successfully completed WIL have shown maturity in the way they communicate and their general behaviour improves tremendously. It was also mentioned that punctuality and behaviour are some of the most important soft skills that are needed in industry. Also, it is very rare to find a situation whereby a student drops out of WIL. The only case that was heard of in Analytical Chemistry was when a student went to medical school to pursue a different discipline.

Training to capacitate the Co-op practitioners was identified to be of utmost importance as these practitioners are expected to take roles such as counselling, motivating, coaching and guiding students. This can be designed to incorporate the characteristics and qualities that were identified by students and graduates in **Tables 5.5.1 and 5.5.2** respectively. Milne (2007: 7) stated that an important part in the

workshop for the mentors is helping them understand their role in the learning experience of students. This will also instil self confidence in all supervisors and mentors. Students do display competence in the workplace but there is a cohort of students that did not do extremely well academically. These students also need to be accommodated in the workplace. However, they also need a supervisor who is an individual with good skills of mentoring and support.

In general, employers indicated that students that are showing poor performance are given more tasks to uplift their levels of confidence. Also, these students are given individual attention as they need it. In some cases, if a mentor sets the tone in supporting students, this will also encourage students to support one another. A technical officer in a polymer industry pointed out that students need to develop interpersonal and communication skills. This would enable them to ask for help and assistance from other employees when they need it. It was also indicated that students need support in order to bridge the gap between university and the workplace. It was emphasized that university mentors should get an in-depth knowledge of an industrial environment and the requirements of workplaces. Some of the mentors do not have industrial experience, therefore training for technical proficiency coupled with spending time in industry as part of this training would prove to be very useful. Also, the university should canvass for workplaces so that more students can be supported. Chapter 6 is the results and discussion on quantitative approach.

CHAPTER 6

QUANTITATIVE RESULTS

6.1 Introduction

This chapter presents the results and discussion of the findings obtained from the questionnaires in this study. The questionnaire was one of the tools used to collect data and was distributed to students on the WIL programme. The data collected from the responses was analysed with Statistical Programme for Social Sciences (SPSS 22.0, Release August 2012).

The results will present the descriptive statistics in the form of graphs, cross tabulations and other figures for the qualitative data that was collected. Inferential techniques include the use of correlations and chi square test values; which are interpreted using the p-values.

6.2 Findings, interpretation and discussion of the primary data: WIL students

This section will discuss the findings and interpretation on quantitative results.

6.2.1 The sample

The sample consisted of the role-players involved in WIL. In total, 200 questionnaires were despatched and 188 were returned with a 94 percent response rate.

6.2.2 The research instrument

The research instrument consisted of 15 items, with a level of measurement at a nominal or an ordinal level. The questionnaire was divided into 2 sections which measured various themes as illustrated below:

- Section 1 - Biographical data
- Section 2 – Information based on WIL experiences / opinions

6.2.3 Reliability Statistics

The two most important aspects of precision are reliability and validity. Reliability is computed by taking several measurements on the same subjects. A reliability coefficient of 0.70 or higher is considered as “acceptable” (UCLA, 2007: 1). The **Table 6.2.1** below reflects the Cronbach’s alpha score for all the items that constituted the questionnaire.

Table 6.2.1: Case processing summary

	N	%
Valid	160	85.1
Excluded ^a	28	14.9
Total	188	100.0

a = Listwise deletion based on all variables in the procedure.

Table 6.2.2: Reliability statistics

Cronbach's Alpha	N of Items
0.672	3

Table 6.2.2 denotes the overall reliability score is close to the standard value of 0.70 indicating a high degree of acceptable, consistent scoring for these variables for this research.

6.2.4 Section Analysis

The section that follows analyse the scoring patterns of the respondents per variable per section. Levels of disagreement (negative statements) were collapsed to show a single category of disagreement (where applicable). A similar procedure was followed for the levels of agreement (positive statements). This is allowed due to the acceptable levels of reliability. The results are first presented using summarised percentages for the variables that constitute each section. Results are then further analysed according to the importance of the statements.

6.2.4.1 Section 1 - Biographical data

This section presents a summary of the respondents' biographical data. The table below indicates the gender of the respondents by age.

Table 6.2.3 shows that the sample constituted 44.7% male and 55.3% female respondents. Amongst the males, 78.6% were between the ages of 18 to 24 years. This grouping of males made up nearly half (47.1%) of all the respondents within the 18 to 24 years age group. Overall, this grouping of males between 18 to 24 years comprised 35.1% of the overall sample as shown in **Table 6.2.3**. Also, amongst the females, 51.5% were between the ages of 25 to 30 years. This grouping of females made 16.3% of all the respondents within the 25 to 30 years age group. Overall, this grouping of females between 25 to 30 years comprised 9.0% of the overall sample as shown in **Table 6.2.3**. According to Mackaway, Rowe and Winchester-Seeto (2012: 115) the students that are going away from learning institutions into workplaces involves someone in the workplace looking after the students. The actual task and responsibilities of the person, whom we refer to as the host supervisor, vary enormously depending on many factors such as the length and

purpose of the placement, the age of the students, the stage of the education the student has attained, type of workplace, the traditions of the discipline area and the accreditation requirements of particular professions (Mackaway, Rowe and Winchester-Seeto, 2012: 115).

Table 6.2.3: Characteristics of the age groups for WIL students

		Gender		Total
		Male	Female	
	Count	66	74	140
	% within Age	47.1%	52.9%	100.0%
	% within Gender	78.6%	71.2%	74.5%
	% of Total	35.1%	39.4%	74.5%
	Count	16	17	33
	% within Age	48.5%	51.5%	100.0%
	% within Gender	19.0%	16.3%	17.6%
	% of Total	8.5%	9.0%	17.6%
	Count	1	6	7
	% within Age	14.3%	85.7%	100.0%
	% within Gender	1.2%	5.8%	3.7%
	% of Total	0.5%	3.2%	3.7%
	Count	1	7	8
	% within Age	12.5%	87.5%	100.0%
	% within Gender	1.2%	6.7%	4.3%
	% of Total	0.5%	3.7%	4.3%
	Count	84	104	188
	% within Age	44.7%	55.3%	100.0%
	% within Gender	100.0%	100.0%	100.0%
	% of Total	44.7%	55.3%	100.0%

Table 6.2.4 below indicates the diploma the respondents were registered for.

Table 6.2.4: Diploma registrations by the respondents

Diploma	Percent
Bachelor of Education	43.6
Analytical Chemistry	14.9
Electrical Engineering	10.1
Building Management	4.3
Public Relations Management	1.6
Construction Management & Quant Surveying	1.6
Engineering Computer Systems	1.6
Chemical Engineering	1.6
Environmental Health	1.6
Industrial Engineering	0.5
Civil Engineering	0.5
Ecotourism	0.5
M. Tech Environmental Health	0.5

The majority of the respondents were Bachelor of Education students with the smallest grouping being in some of the Engineering and Tourism related departments as shown in **Table 6.2.4**. The reason for this is that the teaching profession is amongst the professions that originated the implementation of WIL in the form of what was called practice teaching in South Africa. Moreover, Bachelor of Education students are easily accessible in their workplaces. Ecotourism, Environmental Health, Industrial and Civil engineering students were the smallest grouping because they are spread all over the country as their programme demanded that they travel extensively. Therefore, it was very difficult to access them. Most Co-operative Education or WIL programmes are available to students in all academic disciplines, and provide additional employment support such as resume building workshop, job interview preparation and professional development courses (Drysdale and Mcbeath (2012, 170) citing (Doel, 2009).

Figure 6.2.1 below indicates what the respondents were doing prior to enrolling at DUT.

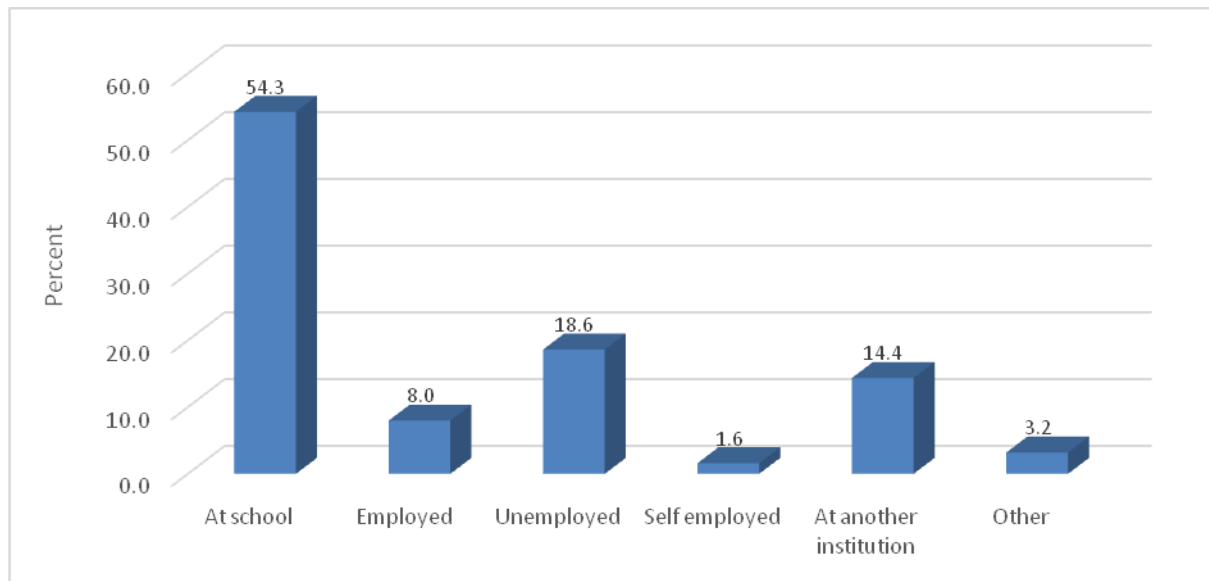


Figure 6.2.1: Exposure of students before enrolling at DUT

More than half of the respondents (54.3 percent) were completing their high school education (in Matric), 8.0 percent was employed whilst 1.6% were self-employed. There are two sets of lessons to be drawn from this study explained Lubis (2010, 10). One relates to the prospects for the students of becoming self-employed. The other relates to the lesson of WIL for other higher education institution with some innate university-based resources. According to Clements and Hays (2012, 2) the conceptualisation of an extended span of influence for universities also suggest a greater stewardship role for the university in working with schools and other institutions to attract and steer youth prior to university matriculation to better prepare them to get the most out of their formal education and early career experience. This exhibits to the fact that there the very small percentage of students that come to study at DUT who have experience or industrial exposure. **Figure 6.2.2** below shows how they sourced placement to undertake WIL.

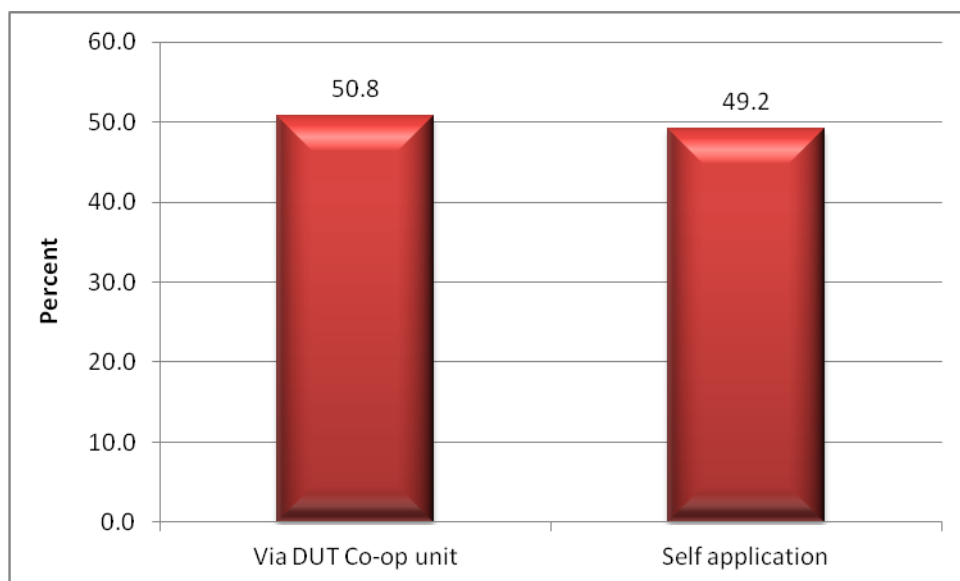
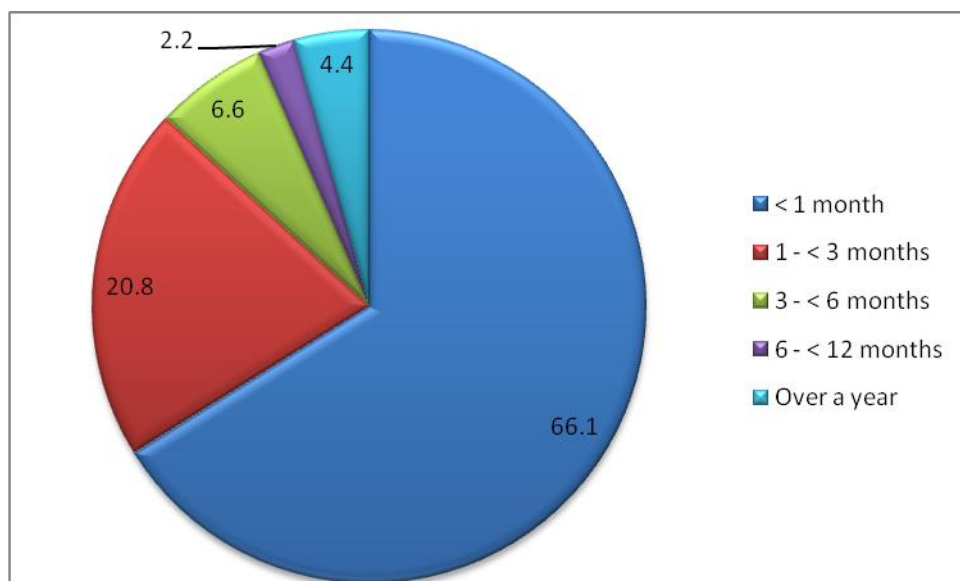


Figure 6.2.2: Source of placement

Respondents were almost evenly divided in terms of how this was achieved. Some students (generally those who had not yet found a placement) thought there was a role for the university, but even so did not identify any expectations that the university might have had of employers or of them, as students (Bok, Evan and Levin, 2010, 8). The length of time that it took to get the WIL placement after becoming eligible is shown in the **Pie Chart 6.2.1** below.



Pie Chart 6.2.1: Length of time taken to source a placement

Two-thirds (66.1%) of the respondents indicated that it took less than 1 month. Edwards, Martin and Rees (2012: 28) highlighted that the length of placement can vary from a few weeks to full one-year internships. A little less than 5% indicated that it took more than a year. This is shown in **Table 6.2.5**. There are two main reasons for this:

Table 6.2.5: Time interval by manner of sourcing a placement

	How did you find your placement to undertake WIL?		Total
	Via DUT Co-op unit	Self-application	
Count	43	76	119
% within How did you find your placement to undertake WIL?	46.7%	85.4%	65.7%
% of Total	23.8%	42.0%	65.7%
Count	27	11	38
% within How did you find your placement to undertake WIL?	29.3%	12.4%	21.0%
% of Total	14.9%	6.1%	21.0%
Count	12	0	12
% within How did you find your placement to undertake WIL?	13.0%	0.0%	6.6%
% of Total	6.6%	0.0%	6.6%
Count	4	0	4
% within How did you find your placement to undertake WIL?	4.3%	0.0%	2.2%
% of Total	2.2%	0.0%	2.2%
Count	6	2	8
% within How did you find your placement to undertake WIL?	6.5%	2.2%	4.4%
% of Total	3.3%	1.1%	4.4%
Count	92	89	181
% within How did you find your placement to undertake WIL?	100.0%	100.0%	100.0%
% of Total	50.8%	49.2%	100.0%

- The discipline is saturated in such a way that the supply of graduates exceeds the demand on the field.

- The relationship between the hosting organisations and the university is badly managed. Hence this study recommends the training of Co-operative Education Practitioners.

According to (Clarke and Llewellynn, 2012: 149) the learning is embedded in the practices and relationship of the workplace and assists in fashioning member identity and meaning. **Table 6.2.5** above indicates the time interval by the manner of sourcing placement.

It is noted that 85.4% of the respondents who made a self-application were placed within a month, compared to 46.7% who had gone via the Co-operative Education office at DUT. At the moment, the Co-operative Education at DUT is understaffed. This suggests that more resources such as manpower should be allocated to the Co-operative Education so as to improve the sourcing of placements. The most effective and valuable learning experience for people in work, is often that which occurs through the medium of work, or is prompted in response to specific workplace issues (Clarke and Llewellynn, 2012: 149) citing (Eraut, Alderton, Cole and Senker, 2000; Eraut, Steadman, Maillardet, Miller, Ali, Blackman, et al., 2005; Felstead, Fuller, Unwin, Ashton, Butler and Lee, 2005).

6.2.4.2 Section 2 – Specific to the investigation

This section deals with the results of the investigation on perspectives of WIL students about learner support that they receive for stakeholders that were involved in their supervision. A summary of the responses are shown in the various figures and tables below. **Figure 6.2.3** below represents the rating of the support received by respondents on WIL training. Mackaway, Rowe and Winchester-Seeto (2012: 118) believe that other responsibilities may include linking theory and practice; developing authentic tasks that support students learning and providing opportunities to put into practice what students have been learning at university (as cited from Allen and Peach, 2007; Chow and Suen, 2001; Johnston, 2010; Rothman, 2007).

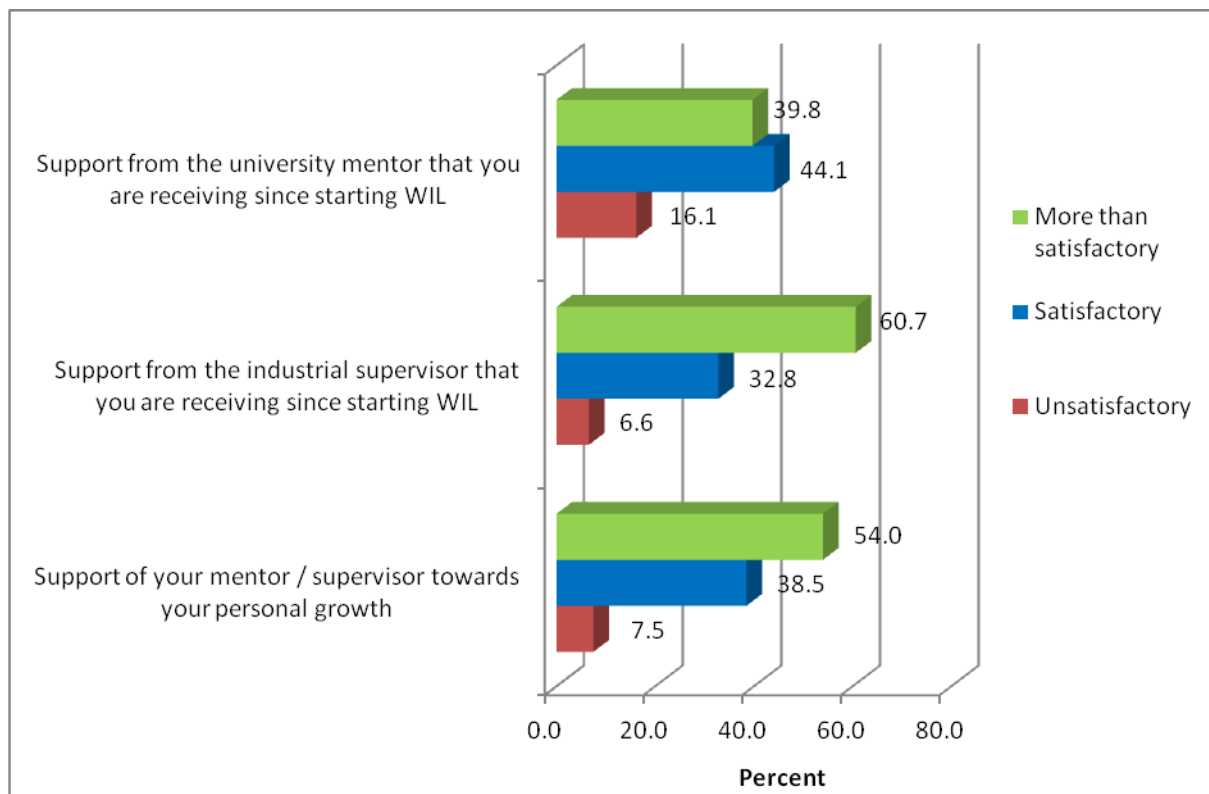


Figure 6.2.3: Support ratings for WIL students

(Unsatisfactory = Poor and Very Poor, More than Satisfactory = Very Good and Excellent)

It is observed that the university mentor was rated at a lower level (20% difference) than the industry supervisor. Employers are thus increasingly seeking capacities that transcend specific disciplines (Keele, Moss, Sturre, and Von Treuer, 2012: 71) citing (Caballero and Walker, 2010: Graduate Careers Australia, 2008). This was also observed on the preliminary work in Chapter 4. As it was stated, this is due to resistance from academics to participate in the monitoring of WIL. University Mentors and Industrial Supervisor were rated for support for the WIL students is unsatisfactory 6.1 and 6.6% respectively. A little more than half of the respondents (54.0%) believed that at least one mentor contributed to their personal growth. Mackaway, Rowe and Winchester-Seeto (2012: 119) warranted that other possible responsibilities include acting as primary contact for the student and academic supervisor and inducting students into the workplace and providing support during the transition period (as cited from Proctor, 1994; Rothman, 2007; Smith et al., 2006). It should be remembered that programmes that incorporate WIL are structured in such a way that a student spends at least 3 months, to the maximum of 12 months in industry, directly under the care of industrial supervisors.

The chi-square p-values for each of the statements in **Figure 6.2.3** above are all less than the level of significance of 0.05, as shown in **Table 6.2.6** below.

Table 6.2.6: Test statistics

	How would you rate the support from the university mentor that you are receiving since you started WIL?	How would you rate the support from the industrial supervisor that you are receiving since you started WIL?	How would you rate the support of your mentor / supervisor towards your personal growth?
Chi-Square	72.447	86.809	101.690
df	4	4	4
Asymp. Sig.	0.000	0.000	0.000

The results indicate that the differences that are observed in the scoring patterns are significant.

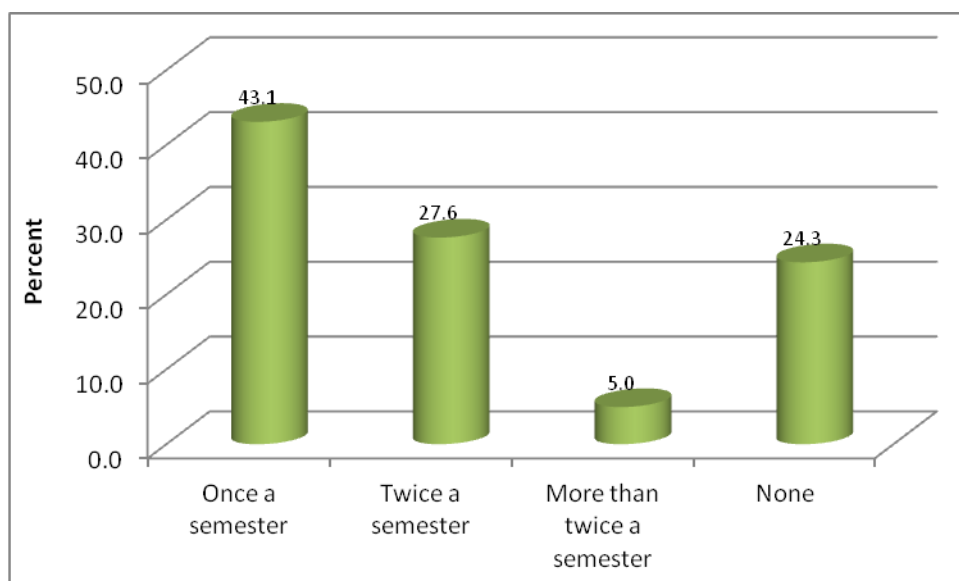


Figure 6.2.4: Number of visits by univesity mentor per semester

Figure 6.2.4 shows the aproximately a quarter of the respondents (24.3%) indicated that they did not receive any visits from the university mentor. Students involved in business activities especially in marketing had learned some technical skills, for example modification of garments, photography some farming activities (Ahmad, Keat and Mahat, 2012, 6). These researchers (Ahmad, *at el.*, 2012, 6) explained that during this period, several visits were made by the lecturer to motivate students

and to consult both students and entrepreneurs if they face any difficulties. Most respondents (43.1%) had a visit once a semester. Five percent had visits more than twice a semester. The Swinburne University of Technology in Australia is supervised in each discipline, establish and monitor the learning outcomes of each placement (Dunn, Fonseca and Schier, 2012: 137).

Table 6.2.7 below summarises the responses for the term and year.

Table 6.2.7: Suitable period for WIL and learner support

	Year 1		Year 2		Year 3	
	Count	Percent	Count	Percent	Count	Percent
Term 1	34	18.1	44	23.4	36	19.1
Term 2	19	10.1	41	21.8	30	16.0
Term 3	14	7.4	38	20.2	46	24.5
Term 4	8	4.3	27	14.4	34	18.1

Values are presented as a percent of the total number of respondents per year (n = 188). Totals for percentages would therefore not sum to a 100%. There is a fairly even spread for year two for the first 3 terms. The highest response is for term 3 in year three (24.5%). The reason that was given by WIL students was that during this time the following is prevailing:

- Learner is more focused.
- Learners should receive relevant experience.
- Learners will be able to grasp concepts and understand methodology.
- Learners have gained more knowledge, this could make things easier.
- This will assist learners to make informed decisions and understand what is expected of them from industry.

- Learners are equipped with relevant skills before proceeding for WIL for easy implementation.

Brown, Butler, Field, Gamble, Kift and Mcnamara (2012: 4) citing Gardner (2012) warranted that a further vital component of any positive transition to the world of work is support for students to manage their planning and development processes, and the provision of opportunities for them to consider how their own knowledge and skills might interact with different professional skills set. According to Forbes (2007: 1) students placements are managed by staff whose role and responsibilities have not been linked to the integration of work-based learning outcomes. This is also a reality in some programmes at DUT.

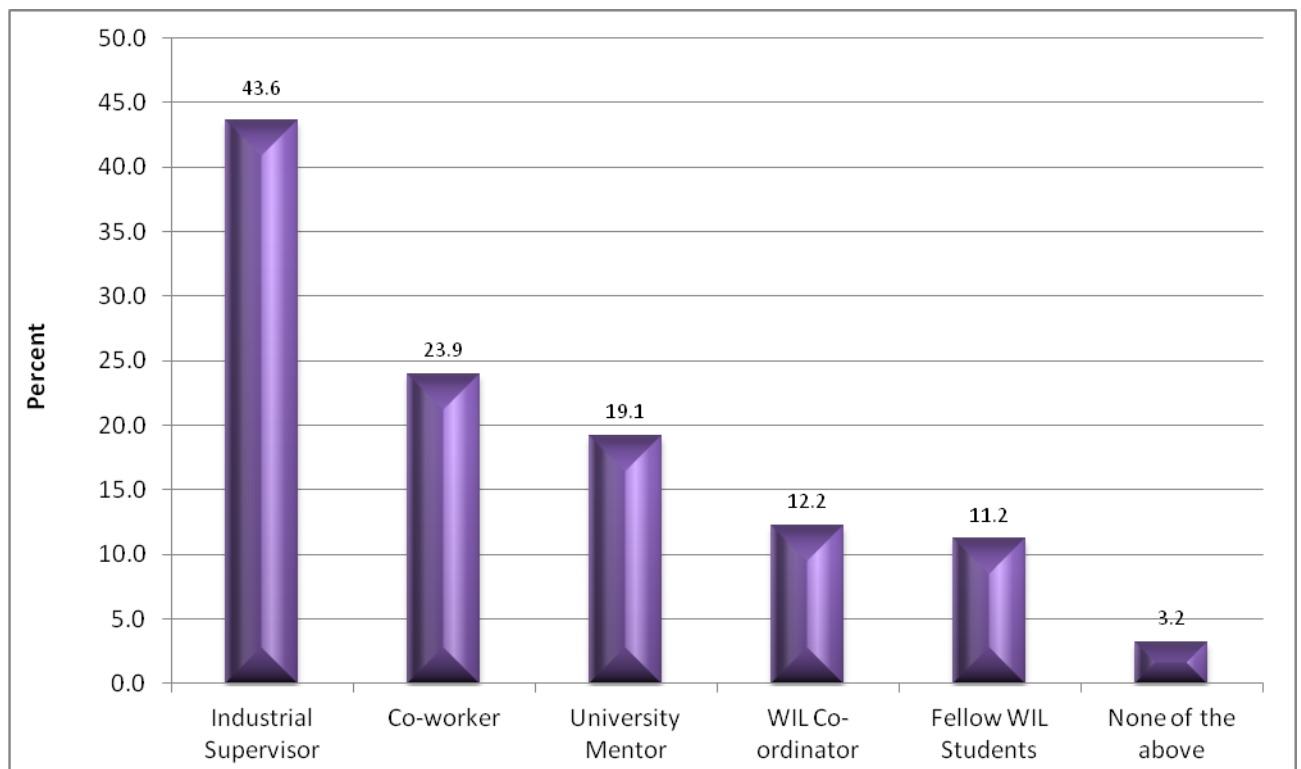


Figure 6.2.5: Person who impact on student's learning

Figure 6.2.5 above indicates the influence of other people on the respondent whilst on WIL. (The percentages are per option. Totals would not add up to 100% as multiple responses were allowed). According to Keating (2012: 95) citing Hillman (2010) whether a mentor's impact is positive or negative depends in large part upon how well informed and skilled the mentor is, and upon the mentor's commitment and

availability. Most respondents (43.6%) identified the Industrial Supervisor as being the most influential as shown in **Figure 6.2.5**. This is attributable to the direct instruction and training that respondents receive whilst on training. The Co-operative Education or WIL programme are functioning as a training ground for students to develop these skill sets (Drysdale and Mcbeath, 2012: 169) citing (Freudenberg, Brimbel and Cameron, 2011). Also, **Figure 6.2.5** denotes the least of respondents fellow WIL students (11.2%) shown that least influential.

Table 6.2.8 below summarises the results of the chi square tests.

Table 6.2.8: Results of the Chi-square tests

		Gender	Diploma registered for	Age	What did you do before enrolling at DUT?	How did you find your placement to undertake WIL?	How long did it take to get a placement after you were eligible to undertake WIL?
	Chi-square	3.535	112.988	14.536	22.736	12.117	29.278
	df	4	52	12	20	4	16
	Sig.	0.473	.000*	0.268	0.302	.017*	.022*
	Chi-square	2.293	54.156	17.229	18.564	7.419	26.189
	df	4	52	12	20	4	16
	Sig.	0.682	0.392	0.141	0.55	0.115	0.051
	Chi-square	2.337	61.725	13.556	27.094	13.006	33.089
	df	4	52	12	20	4	16
	Sig.	0.674	0.167	0.33	0.133	.011*	.007*
	Chi-square	4.111	111.070	17.234	17.537	25.596	33.539
	df	3	39	9	15	3	12
	Sig.	.250	.000*	.045*	0.288	.000*	.001*

It should be noted that all values without an * (or p-values more than 0.05) do not have a significant relationship.

The p-value between “How did you find your placement to undertake WIL?” and “How would you rate the support from the university mentor that you are receiving since you started WIL?” is 0.017 (which is less than the significance value of 0.05). This means that there is a significant relationship between the variables, that is, the manner in which the placement was obtained played a role in terms of the support that was received from the university mentor. The university mentor or the WIL co-ordinator canvasses the employed to place the student for WIL.

The p-value between “How would you rate the support from the university mentor that you are receiving since you started WIL? and Diploma registered for” is 0.000. There is a significant relationship between the variables. For instance, Analytical Chemistry WIL co-ordinator at DUT pushing the university mentors to visits the students and the Industrial Supervisor for the progress update. According to Edwards, Martin and Rees (2012: 29) an on-campus academic mentor and a workplace supervisor are both important in providing on-going support and guidance to the student.

The p-value between “How often does the university mentor visit you during WIL in industry? and How long did it take to get a placement after you were eligible to undertake WIL?” is 0.001. Therefore, there is a significant relationship between the variables. The university mentor visits and recruits for more WIL students so that the placements should continue in a short space.

The p-value between “How did you find your placement to undertake WIL? and How would you rate the support of your mentor / supervisor towards your personal growth?” is 0.011. There is a significant relationship between the variables. Edwards, Martin and Rees (2012: 28) explained that providing clear documentation on academic/learning and administrative matters around WIL, and identifying the support available if needed, to students and supervisors in the field allows each to make the most of the workplace opportunity and assists them to establish realistic expectations and achieve learning outcomes. Co-operative Education at DUT is

involved to place students in a company. Also, the funding of students stipends come from the application of Sector Education Training Authority (SETA) for Discretionary Grants. The administration and accountability of this funding is rest with the Co-operative Education at DUT. This is why the support of students personal growth rest in the mentor and supervisor.

The p-value between “How often does the university mentor visit you during WIL in industry?” and “Age” is 0.045. The students age is between 18 to 24 years overall. This means that these students are young and unexperienced. Therefore, the university mentor should visit these students twice a semester. This is the means to allow the students to grow and to mature having the necessary pillar of strength to them. Simpson and Swirski (2012: 239) citing Orrell warranted that university leadership and management have major responsibilities to ensure that university governance account for resource, policies and infrastructure to support students, staff, industry partners and the diverse WIL contexts of social justice, cultural diversity, technological advancement and uptake, internationalisation and professional accreditation commitments.

6.2.4.3 Correlations of magnitude and significance

Bivariate correlation was also performed on the (nominal and ordinal) data. The results are found in the **Table 6.2.9**. The results indicate the following patterns. Positive values indicate a directly proportional relationship between the variables and a negative value indicates an inverse relationship. All significant relationships are indicated by a * or **. The correlation value between “How long did it take to get a placement after you were eligible to undertake WIL?” and “How often does the university mentor visit you during WIL in industry?”.. Respondents believed that the more the university mentor visited depended directly on how placement was obtained. The correlation value between “Diploma registered for” and “Age” is 0.317. Bachelor of Education WIL students are not young in age. Department Higher of Education and Training (DHET) is encouraging the old students to enrol and obtain the degrees which is sponsored by Funza Lushaka. According to the National Strategy on Work Integrated Learning in University Education (2015: 2) in Australia

for students, WIL experiences such as placements and work-oriented projects, where industry and community partners contextualise education, can make a real difference to their skills and capacity. The correlations value between “How did you find your placement to undertake WIL?” and “Diploma registered for” and “Age” is 0.729 and 0.197 respectively. The cohort of students from rural school (Chapter 5 - Perspectives of employers) started to teach privately the learners with no qualification from college or university. Also, these students are mature and only matriculation certificate at their disposal. The correlations value between “How did you find your placement to undertake WIL” and “Characteristics or qualities that an industrial supervisor must have” is 0.199. Respondents believed that the more positive qualities an industrial supervisor must have the more students do find the placements. The correlations value between “Characteristics or qualities that an industrial supervisor must have” and “Characteristics or qualities that an university mentor must have” is 0.166. Respondents believed that the more positive qualities of university mentor is the more positive qualities of industrial supervisor to train the students.

Negative values imply an inverse relationship. That is, the variables have an opposite effect on each other. The correlation value between “Diploma registered for” and “How long did it take to get a placement after you were eligible to undertake WIL?” and -0.531. Respondents indicated that they were more easily placed (shorter time interval) when they belonged to a group with more registered students. The correlation value between “How long did it take to get a placement after you were eligible to undertake WIL?” and “How did you find your placement to undertake WIL?” is -0.418. Respondents indicated that they were more easily find placement in a shorter time interval. The correlation value between “How long did it take to get a placement after you were eligible to undertake WIL?” and “How would you rate the support from the university mentor that you are receiving since you started WIL” is -0.180. Respondents showed that they were subject to poor support from the university mentor to get placements at a shorter time interval. The university mentors has complained that the teaching load is for heavy. This is why the support is very poor. The correlation value between “Characteristics or qualities that an industrial supervisor must have” and “How often does the university mentor visit you

Table 6.2.9: Correlations for WIL Students

		Gender	Diploma registered for	Age	What did you do before enrolling at DUT?	How did you find your placement to undertake WIL?	How take pla after eli un v
	Correlation Coefficient	1.000					
	Sig. (2-tailed)						
	N	188					
	Correlation Coefficient	.125	1.000				
	Sig. (2-tailed)	.119					
	N	157	157				
	Correlation Coefficient	.106	.317**	1.000			
	Sig. (2-tailed)	.146	.000				
	N	188	157	188			
	Correlation Coefficient	.030	-.026	.270**	1.000		
	Sig. (2-tailed)	.687	.749	.000			
	N	188	157	188	188		
	Correlation Coefficient	-.004	.729**	.197**	-.074	1.000	
	Sig. (2-tailed)	.959	.000	.007	.314		
	N	185	155	185	185	185	
	Correlation Coefficient	-.082	-.531**	-.006	.030	-.418**	
	Sig. (2-tailed)	.272	.000	.930	.691	.000	
	N	183	152	183	183	181	
	Correlation Coefficient	.060	.136	-.071	-.134	.146	

you started WIL?	Sig. (2-tailed)	.450	.117	.374	.090	.066	
	N	161	134	161	161	160	
	Correlation Coefficient	-.050	-.176*	-.020	.069	-.129	
	Sig. (2-tailed)	.500	.029	.789	.354	.084	
	N	183	154	183	183	180	
	Correlation Coefficient	-.082	-.160*	.048	.090	-.155*	
	Sig. (2-tailed)	.266	.046	.511	.221	.036	
	N	187	156	187	187	184	
	Correlation Coefficient	-.100	-.143	.073	-.060	-.039	
	Sig. (2-tailed)	.181	.081	.329	.423	.601	
	N	181	150	181	181	178	
	Correlation Coefficient	.219*	.659**	.138	-.179	.513**	
	Sig. (2-tailed)	.022	.000	.154	.063	.000	
	N	109	89	109	109	108	
	Correlation Coefficient	.057	.374**	.038	.013	.199*	
	Sig. (2-tailed)	.468	.000	.626	.866	.011	
	N	165	141	165	165	162	
	Correlation Coefficient	-.072	.354**	.079	.087	.210**	
	Sig. (2-tailed)	.370	.000	.326	.276	.009	
	N	157	134	157	157	156	

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

during WIL in industry? is -0.208. Respondents believed that the more qualities of the industrial supervisor must have so that the fewer visits from university mentor are achieved during WIL. The correlation value between “How long did it take to get a placement after you were eligible to undertake WIL?” and “Characteristics or qualities that a university mentor must have” is -0.256. Respondents indicated that the characteristics or qualities a university mentor should get the students placement at a shorter time interval. These placements often enable students to integrate the theories they learn in classroom with the practical imperatives of workplaces (Keele, Moss, Sturre, and Von Treuer, 2012: 65) citing (Bleetman and Webb, 2008).

6.3 Findings, interpretation and discussion of the primary data: graduates

6.3.1 Reliability statistics

These variables will be interpreted in terms of inter-item correlation. The reliability scores for the ordinal data is given below.

Table 6.3.1: Case processing summary

	N	%
Valid	77	72.6
Excluded	29	27.4
Total	106	100.0

Table 6.3.2: Reliability statistics

Cronbach's Alpha	N of Items
0.792	3

The overall reliability score is greater than the standard value of 0.70 indicating a high degree of acceptable, consistent scoring for these variables for this research.

6.3.2 Section analysis

This section will discuss the primary data of graduates.

6.3.2.1 Biographical data

This section presents a summary of the respondents' biographical data. The **Table 6.3.3** below indicates the gender of the respondents by age. The graduates constituted 44.6% male and 55.4% female respondents. Amongst the males, 33.3% were between the ages of 18 to 24 years. This male group is immature and take thing very fast such as job hopping with increased salary, nice cars, exquisite apartment and the entertainment. This grouping of males made up to (31.1%) of all the respondents within the 18 to 24 years age group. Overall, this grouping of females between 25 to 30 years comprised 13.9% of the overall graduates. The characteristic of this group wants to settle down with the partner of marriage and have a stable employment. Amongst the females, 42.9% were between the ages of 25 to 30 years. This grouping of females made up nearly half (32.1%) of all the respondents within the 25 to 30 years age group. Overall, this grouping of males between 25 to 30 years comprised 17.8% of the overall graduates. Amongst the males, 50.0% were between the ages of 31 to 35 years. This grouping of males made up to (8.9%) of all the respondents within the 31 to 35 years age group. Overall, this grouping of females between 31 to 35 years comprised 4.0% of the overall graduates. Amongst the females, 66.7% were between the ages of 36 to 40 years. This grouping of females made up nearly half (7.1%) of all the respondents within the 36 to 40 years age group. Overall, this grouping of males between 36 to 40 years comprised 4.0% of the overall graduates. Amongst the males, 33.3% were between the ages of 41 to 45 years. This grouping of males made up nearly half (2.2%) of all the respondents within the 41 to 45 years age group. Overall, this grouping of females between 41 to 45 years comprised 1.0% of the overall graduates. Demographic variables, including age, gender, year of study, academic discipline, number of work terms, level of satisfaction with work terms and grade point average could also analyzed (Drysdale and Mcbeath, 2012: 172). It was predicted that participation in Co-operative Education would be positively related to

these variables, which could facilitate the skills development and confidence that is necessary to help students make a successful transitions into the workforce (Drysdale and Mcbeath, 2012: 172).

Table 6.3.3: Characteristics of the age groups for graduates

		Gender		Total
		Male	Female	
	Count	14	28	42
	% within Age	33.3%	66.7%	100.0%
	% within Gender	31.1%	50.0%	41.6%
	% of Total	13.9%	27.7%	41.6%
	Count	24	18	42
	% within Age	57.1%	42.9%	100.0%
	% within Gender	53.3%	32.1%	41.6%
	% of Total	23.8%	17.8%	41.6%
	Count	4	4	8
	% within Age	50.0%	50.0%	100.0%
	% within Gender	8.9%	7.1%	7.9%
	% of Total	4.0%	4.0%	7.9%
	Count	2	4	6
	% within Age	33.3%	66.7%	100.0%
	% within Gender	4.4%	7.1%	5.9%
	% of Total	2.0%	4.0%	5.9%
	Count	1	2	3
	% within Age	33.3%	66.7%	100.0%
	% within Gender	2.2%	3.6%	3.0%
	% of Total	1.0%	2.0%	3.0%
	Count	45	56	101
	% within Age	44.6%	55.4%	100.0%
	% within Gender	100.0%	100.0%	100.0%
	% of Total	44.6%	55.4%	100.0%

The **Table 6.3.4** below indicates the diploma the respondents were graduated for. The majority of the respondents were Accounting graduates (11.5%). This is a result of WIL not being compulsory in the Faculty of Accounting and Information. Marketing graduates (6.6%) comprised of 100 hour for WIL in the workplace, so is

the Office Management Technology (8.2%) and Human Resource Management (3.3%) which comprised of nine weeks and three months respectively. According to Koch (2012: 2) the WIL experiences can be off-campus, project based (real or simulated), all depending on the academic discipline.

Table 6.3.4: Graduate diploma respondents

	Frequency	Percent
Marketing	4	6.6
Taxation	6	9.8
Office Management & Tech	5	8.2
Analytical Chemistry	6	9.8
Accounting	7	11.5
Human Resource Management	2	3.3
Public Management	2	3.3
Child & Youth Dev	1	1.6
B Tech Enviro Health	1	1.6
Industrial Engineering	1	1.6
Electrical Engineering	3	4.9
B Tech Child & Youth Dev	1	1.6
Management	3	4.9
Business Admin	1	1.6
B Tech Taxation	2	3.3
Cost & Management Acc	4	6.6
B Tech Cost n Management Acc	3	4.9
Somatology	1	1.6
IT	3	4.9
Engineering Computer Systems	1	1.6
Financial Information Systems	1	1.6
B Tech Mechanical Engineering	1	1.6
B Tech Public Relations Management	1	1.6
B Tech Operations Management	1	1.6
Total	61	100.0

The **Figure 6.3.1** below indicates the current occupation of the respondents. More than half of the respondents (52.0%) were employed in the field of their qualification. Also, this trend toward Work Integrated Learning programme is equally motivated by the expectation from employers that new university graduates will enter the workforce with higher levels of competency in their field of study and have the skills necessary to transition successfully into the workplace explained by Drysdale and Mcbeath (2012: 169) citing (Gardner and Chor, 2007). A quarter of the graduates

are unemployed (25.5%) and graduates that are employed - not relevant to qualification (20.4%). DUT has a CV database for the employers that are recruiting for the graduates. According to the National Strategy on Work Integrated Learning in University Education (2015: 2) in Australia many employers already provide these opportunities. The reason for participating is varying, but research shows businesses that participate in WIL see its value in the graduates who enter the workplace.

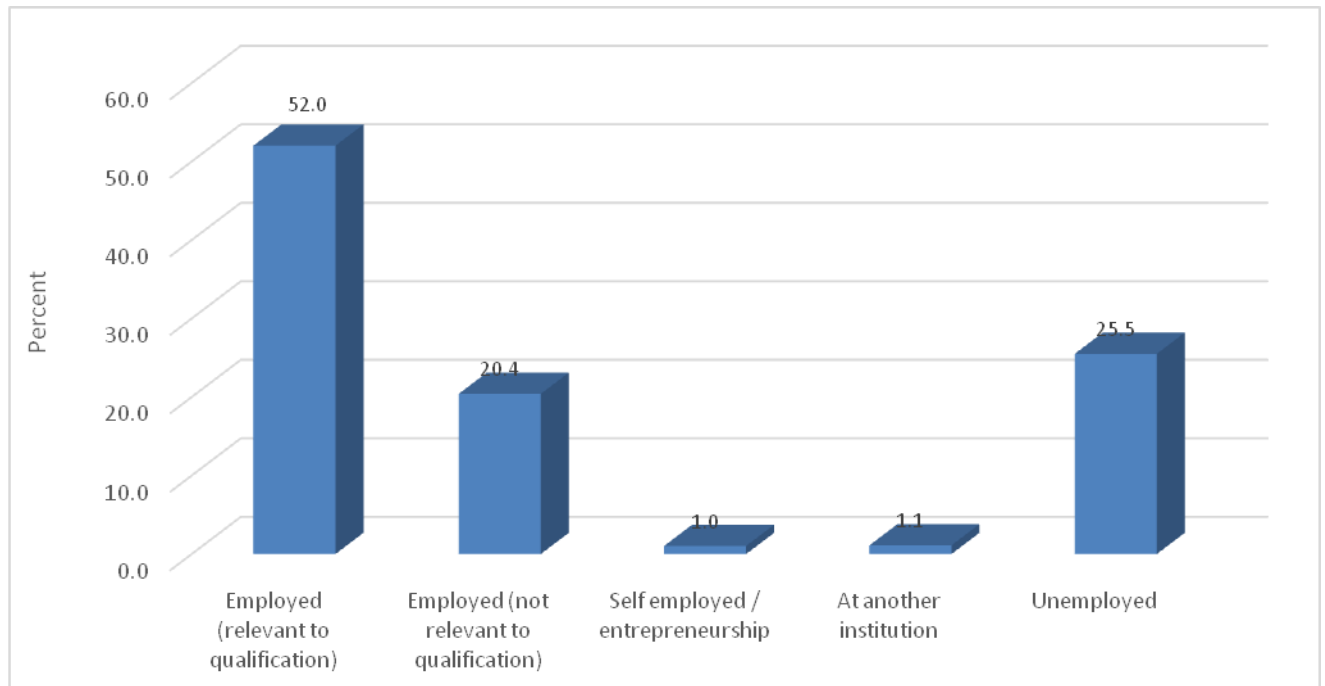


Figure 6.3.1: Current occupation of the respondents

The **Figure 6.3.2** below shows how the respondents sourced their current employment. Most respondents (90.2%) had self-applied. The mandate for DUT is recruitment for WIL student only for work experience to qualify for graduation. Also, DUT has got mentorship programme to facilitate the employability skills. Employability skills include communication skills, teamwork skills, problem solving skills, self management skills, planning and organising skills, technology skills, life-long learning skills and enterprise skills (Woodley, 2010, 3) citing (DEST, 2002). Least for the graduates (9.8%) have sourced their current employment via DUT Co-operative Education Department due to the placement of graduates is secondary to WIL placement. Brimble and Freudenberg (2010: 2) highlighted that WIL is aimed at improving the employability of graduates by giving them valuable practical experience which is directly related to courses being studied a university.

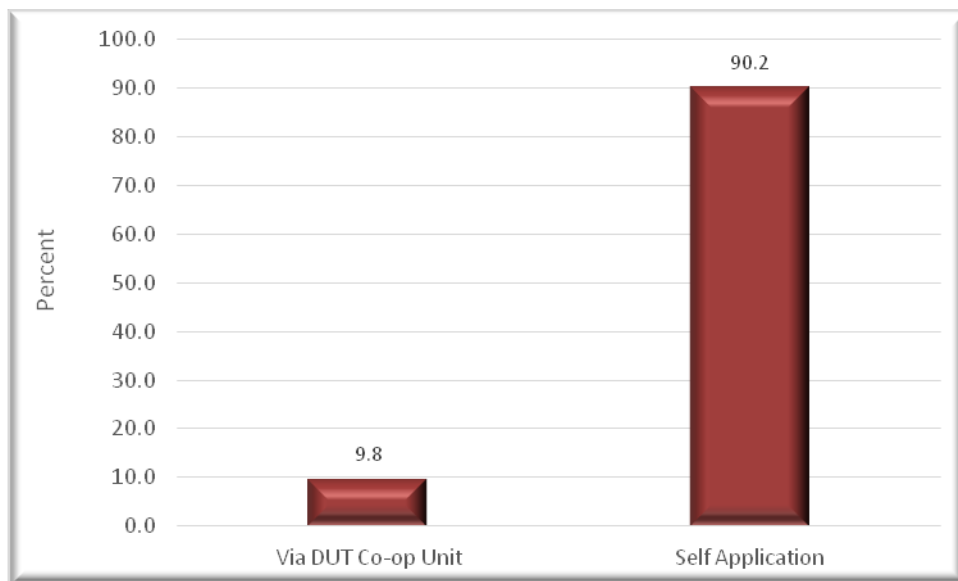
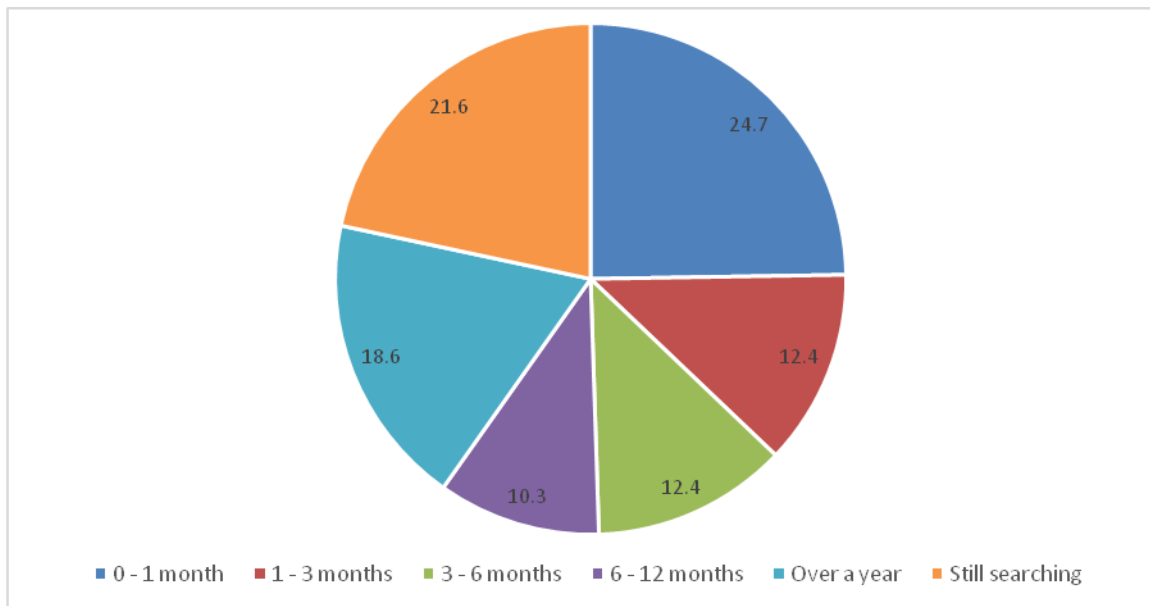


Figure 6.3.2: Respondents sourced their current employment

The length of time that it took to find employment after graduating is shown in the **Pie Chart 6.3.1** below. Nearly a quarter of the respondents (24.7%) indicated that it took less than a month. It is interesting to know that the graduates indicated that 21.6% is still searching for an employment opportunity. Whereas, 12.4% and 18.6% of graduates indicated that the length of time to find employment is (1 – 3) months and (3 – 6) months, and over a year respectively, as shown in the **Pie Chart 6.3.1**. Ferns and Moore (2012: 207) highlighted that WIL is regarded as a mechanism for addressing the requirement to embed employability skills into the student experience and provide accountability measures. According to Clements and Hays (2012, 3) in general, it can be said that (a) graduates themselves often report lacking important understanding about workplace culture and behaviour, not to mention feeling inadequate with respect to practical skills and (b) managers in employing organisation consistently rate new graduates as poorly equipped in terms of practical and interpersonal skills (citing Wendlandt and Rochlen, 2008) for additional strong support of this assertion.



Pie Chart 6.3.1: Time for the respondents to source their current employment

6.3.2.2 Learner support for graduates

This section deals with learners support for graduates for selected programmes. **Figure 6.3.3** below is the summarised rating of various supporting related statements. The trend is that the support structures have been good or better than that. The graduates indicated that the support of the University Mentor good (48.2%) regarding academic teaching, learning and assessment. Furthermore, Koch (2012: 2) alluded to the fact that the work integrated learning implies that students should be involved in meaningful performances, tasks and learning areas which are set out clearly by the UoT. Moreover, the graduates indicated that the support of the Industrial Supervisor good (42.0%) regarding the day to day supervision. According to Ferns and Moore (2012: 207) WIL is an effective means of preparing graduates for the world of work and encompasses a range of experiences.

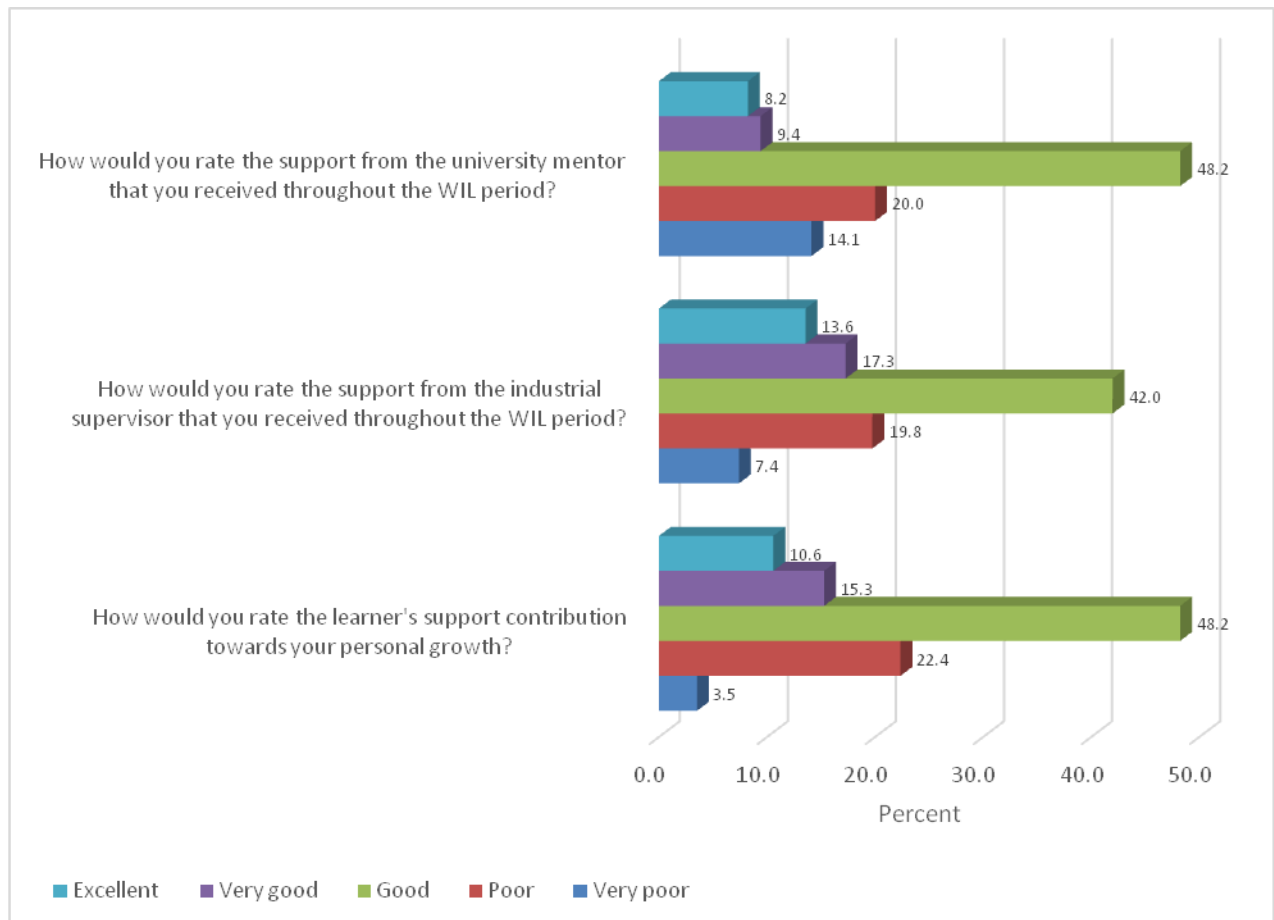


Figure 6.3.3: Various learner support related statements

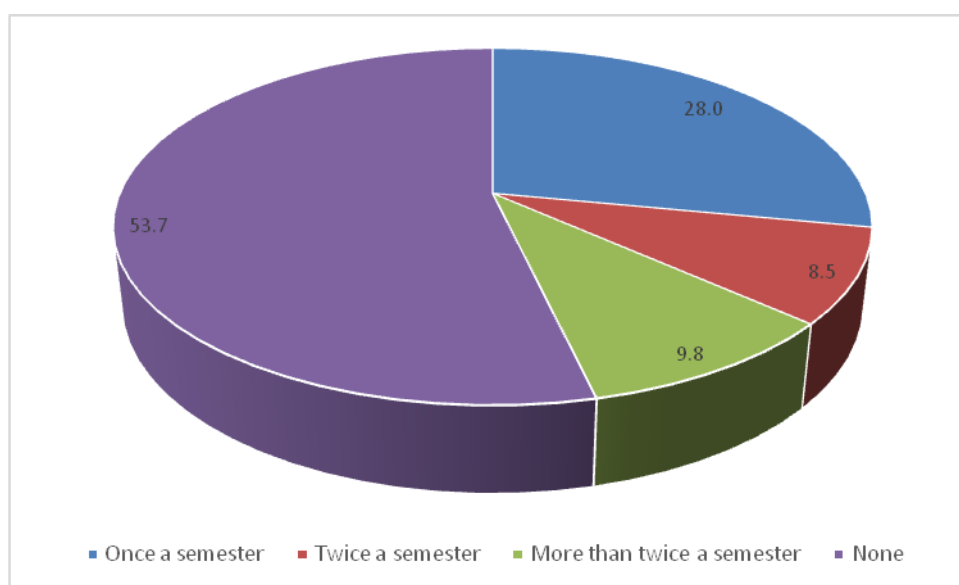
The graduates rated the learner's support contribution towards their personal growth 48.2%. This is interesting because the graduates have got good behaviour towards the work ethics and looking mature for interview and community at large. According to the National Strategy on Work Integrated Learning in University Education (2015: 2) in Australia, graduates identify WIL as having positive impact in making the transition to work and their competitiveness in the labour market, often identifying the practical experience they gained through WIL as crucial to getting a job.

The chi-square p-values for each of the statements in the **Figure 6.3.3** above are all less than level of significance of 0.05, as shown in the **Table 6.3.5** below

Table 6.3.5: Chi-square p-values test statements

	How would you rate the support from the university mentor that you received throughout the WIL period?	How would you rate the support from the industrial supervisor that you received throughout the WIL period?	How would you rate the learner's support contribution towards your personal growth?
Chi-Square	46.000	27.951	50.353
Df	4	4	4
Asymp. Sig.	0.000	0.000	0.000

The results indicate that the differences that are observed in the scoring patterns are significant.

**Pie Chart 6.3.2: Visit during WIL in industry by Co-op Practitioner**

How often does the Co-op Practitioner/ University Mentor visit you during WIL in industry? More than half of the respondents (53.7%) did not receive a visit from the Co-op Practitioner/ University Mentor shown in **Pie Chart 6.3.2**. The Durban University of Technology is being used as a case study. In general, during semester four, or just before the completion of their course work and even much earlier in some programmes, students are required to participate in WIL orientation that is aimed at improving their knowledge and attitude towards the world outside the classroom. They are required to attend work preparedness workshops that are compulsory, in order to prepare them for the world of work. These are few of the many responsibilities of Co-operative Education Practitioners. Over and above this,

these practitioners have to attend to different request needs of external stakeholders such as curriculum updates, information about placements on top of the lecture loads that they have. This is why the time to visit the students during the WIL in industry is not available. To develop their capabilities and experience, students in many disciplines participate in placements, in which they operate in authentic work settings (Keele, Moss, Sturre, and Von Treuer, 2012: 65). Also, the resistance within institution is a challenge. DUT is requesting all Co-op Practitioner / University Mentor to visit the students twice a semester so that the students have a chance to begin the training and/or project.

Table 6.3.6: Learner support in year vs term

	Year 1		Year 2		Year 3	
	Count	Table N %	Count	Table N %	Count	Table N %
Term 1	51	17.7%	30	10.4%	27	9.4%
Term 2	19	6.6%	22	7.6%	19	6.6%
Term 3	17	5.9%	21	7.3%	23	8.0%
Term 4	19	6.6%	17	5.9%	23	8.0%

There is a fairly even spread for year 3 across the terms indicated in **Table 6.3.6**. Fewer subjects in the final year level, enough time for experiential learning. Learner support should be given just before completion of studies and assist student to make informed decisions and understand what is expected of them from industry. The highest response is for term 1 in year 1 (17.7%) shown in **Table 6.3.6**. This is interesting because term 1 in year 1 students are getting to know the programme's strength and weakness for the first time. Furthermore, this is to encourage students to spend more time in their studies and they would be more enthusiastic during first term. Many graduates experience difficulties at Higher Learning Institutions, it is good to monitor students at an early stage and to bridge the gap between secondary and tertiary education. Baden-Wuerttemberg, Cates, Jones, Lechleiter and Peach (2009: 100) citing Philips (1978) highlighted that a study by Georgia Organization of Southern Bell found that graduates who undertake work related programmes are better prepared to assume future management responsibilities.

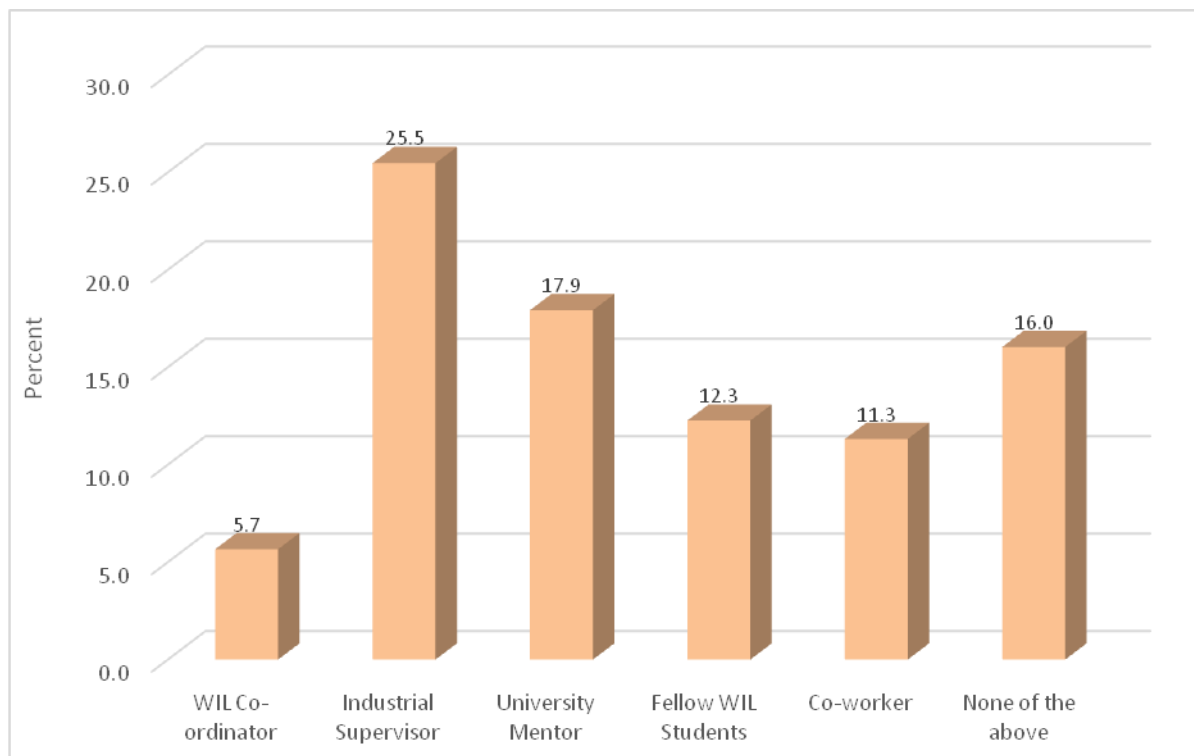


Figure 6.3.4: Influence of other people on the respondent whilst on WIL

The influence of WIL on academic performance is explained in terms of soft skills such as time management and organizational strategies that are acquired through the work experience (Carlson and Tanaka, 2012: 79). **Figure 6.3.4** above indicates the influence of other people on the respondent whilst on WIL. (The percentages are per option. Totals would not add up to 100% as multiple responses were allowed). Most respondents (25.5%) identified the Industrial Supervisor as being the most influential. This is explained in Chapter 4, that, firstly this is due to the fact that WIL students spend the whole training period (which is three, six months or a year depending on the requirements of their academic programme) in the care of the employers. The respondents (11.3%) identified the co-worker. Keating (2012: 90) believes that students gain valuable experience by way of applying their practical learning in the workplace, develop their skills in interacting with fellow workers, customers and management and discover in which direction they would like to steer their careers. The performance on a range of competencies that are germane to success in the workplace, such as communication skills or leadership, is evaluated (Keele, Moss, Sturre, and Von Treuer, 2012: 70).

Table 6.3.7: Characteristics or qualities that an industrial supervisor must have

	Frequency	Percent
Outspoken, open-minded and a good listener	2	1.9
Strong, highly skilled and positively minded	1	.9
Aware of university requirements, student interests, learning and development, liaise with university mentors	5	4.7
Good leadership, organizational and problem solving skills	3	2.8
Must be friendly and open-minded	1	.9
Interpersonal, time management, communication and entrepreneurial skills	2	1.9
Supportive and encouraging	7	6.6
Technical and people management skills	1	.9
Understanding, empathetic, encouraging and approachable	2	1.9
Must be dedicated, innovative and motivated	2	1.9
Responsibility and commitment to students	2	1.9
Should have the necessary qualification, experience and leadership skills	4	3.8
High self-esteem, strong, persevering, intelligent and respectful	1	.9
Able to lead, analyse, motivate and offer moral support to learners	1	.9

Table 6.3.7 above is a summary of what respondents believe are characteristics or qualities that an industrial supervisor must have. (The percentages are per option. Totals would not add up to 100% as multiple responses were allowed). While school based learning is important in helping students develop skills for knowledge acquisition and critical thinking, the opportunity for workplace experience should allow them to apply their knowledge to real world situations and develop interpersonal skills such as conflict resolution, communication and networking Drysdale and Mcbeath (2012, 170) citing (Hanneman and Gardner, 2010). Many studies confirm the value of learning in the workplace, including learning professional skills and knowledge, improving self-confidence, promoting reflective thinking and building networks for their career (Hodgson, 2010, 2) citing (Crebert *et al.*, 2004a; Dressler and Keeling, 2004; Graham and Megarry, 2005; Morgan and Turner, 2000; Spowart, 2006; Wilson and Pirrie, 1999).

Table 6.3.8: Characteristics or qualities that a university mentor must have

	Frequency	Percent
Outspoken, open-minded and a good listener	2	1.9
Good leader, positive attitude, tolerant and patient	2	1.9
Good understanding of the industry	5	4.7
Good communication skills	2	1.9
Supportive, encouraging and dedicated	8	7.5
Time management and mentoring skills	1	.9
People management skills	2	1.9
Understand learner's capabilities and offer proper direction	3	2.8
Must be a specialist in one or more areas of operation	2	1.9
Should have the necessary qualification and experience	1	.9

Table 6.3.8 above is a summary of what respondents believe are characteristics or qualities that a university mentor must have. (The percentages are per option. Totals would not add up to 100% as multiple responses were allowed). This is an effort to improve student's ability to provide greater evidence of the development of graduate attributes and employability skills (Dunn, Fonseca and Schier, 2012: 144).

6.4 Findings, interpretation and discussion of the primary data: Co-operative Education Practitioners

This section is for findings, interpretation and discussion of the primary data for Co-operative Education Practitioners.

6.4.1 Reliability scores

The **Table 6.4.1** below indicates the reliability scores for the ordinal questions in the study.

Table 6.4.1: Reliabilities

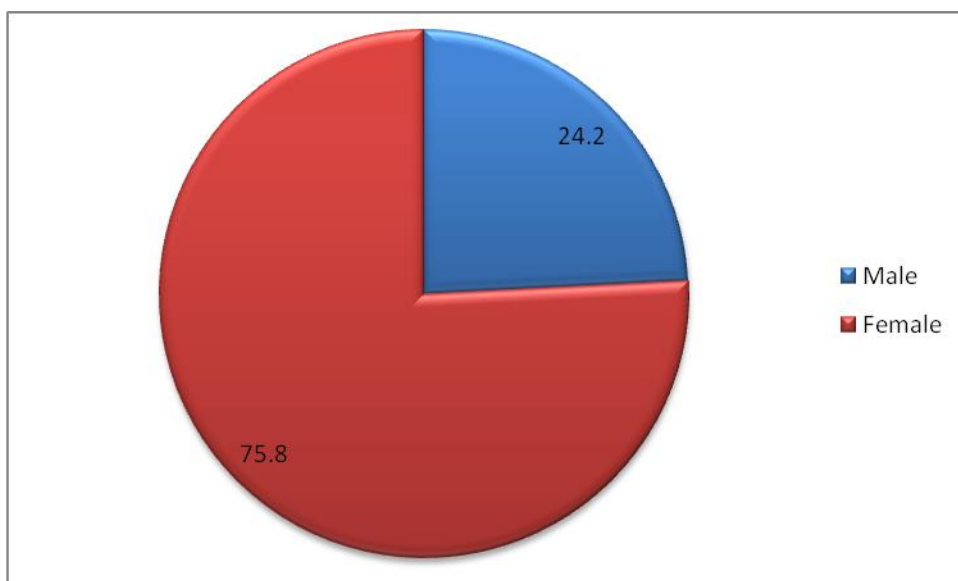
Section 2 Question Number of the questionnaire for Co-operative Education Practitioners.	Cronbach's Alpha
Section 2 Question 12 Learner facilitation demands the skills/traits.	0.849
Section 2 Question 13 To what extent have you played the role of PR officer, marketer, leader, counsellor and negotiator with regards to learner support for WIL.	0.969
Section 2 Question 14 How important is the training to facilitate WIL with regards to learner support for WIL?	0.574
Section 2 Question 15 The following qualities, skills and attributes that are needed in order to facilitate learner support.	0.890

All of the questions, except Section 2 Question 14, have values that exceed the minimum value of 0.700. This indicates that there is a high degree of consistency in the manner of the responses.

6.4.2 Section analysis

6.4.2.1 Gender composition

The gender composition of the sample is shown **Pie Chart 6.4.1** below.



Pie Chart 6.4.1: Gender composition

The ratio of females to males is 3:1 (75.8% : 24.2%). Three-quarters of the respondents (75.4%) indicated that they had worked in industry in their related field before. This suggests that Co-op Practitioners have the industrial experience in related field.

Table 6.4.2: UoT's that respondents had worked at previously

		Have you worked for another UoT in the past?	Total
		Yes	
Have you worked for another UoT in the past?	Count	1	1
	% of Total	16.7%	16.7%
	Count	1	1
	% of Total	16.7%	16.7%
	Count	1	1
	% of Total	16.7%	16.7%
	Count	1	1
	% of Total	16.7%	16.7%
	Count	2	2
	% of Total	33.3%	33.3%
	Count	6	6
	% of Total	100.0%	100.0%

Six of the 62 respondents (9%) had worked at other UoT. **Table 6.4.2** above indicates the UoT that respondents had worked at previously. When comparing WIL and its factors and effects among institutions and between cultural settings, it is important for researchers to note such differences such as voluntary versus mandatory participation, as well as the intensity of the programmes (e.g., number of hours/time in the work setting), when interpreting the results – knowing that such factors cannot be statistically controlled or compared across contexts (Carson and Tanaka, 2012: 78).

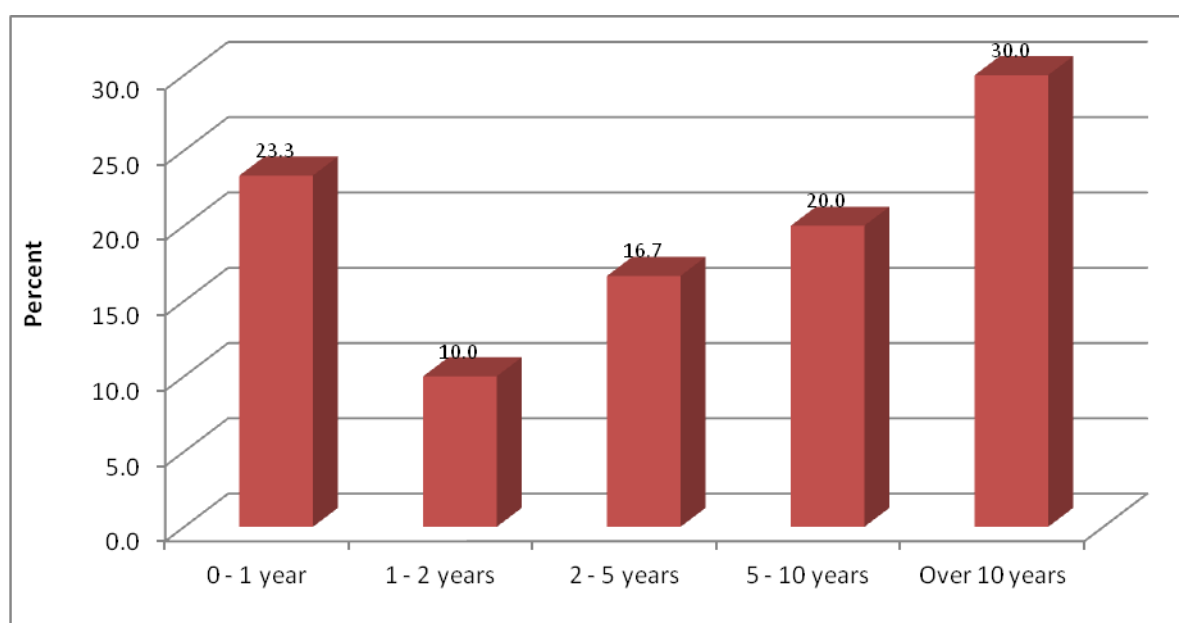


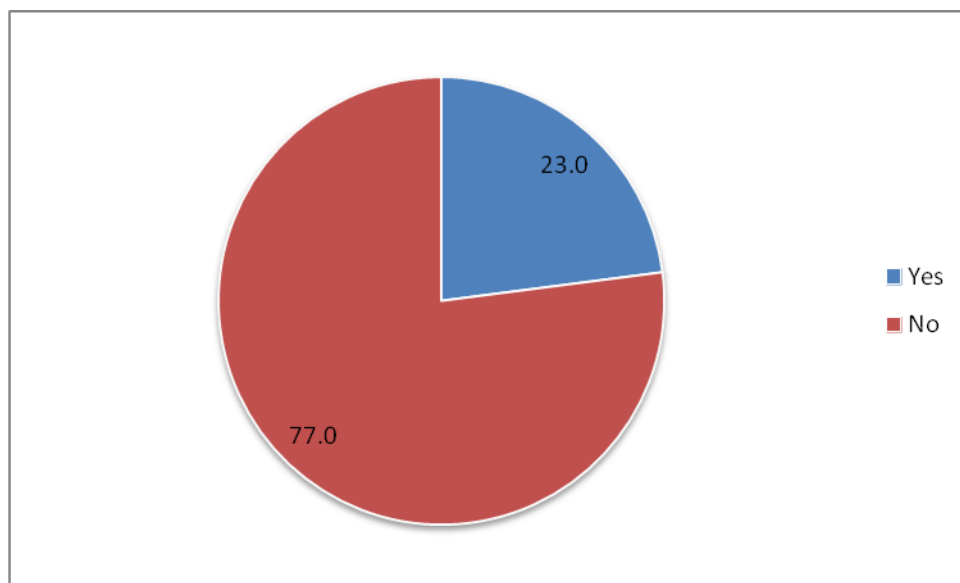
Figure 6.4.1: Year(s) WIL mentorship programme

Figure 6.4.1 has shown that nearly a third of the respondents (30.0%) had been involved for more than 10 years. This is suggesting that the respondents (30.0%) have accumulated a decade of experience practitioners followed by the respondents (20.0%) with 5 to 10 year experience and the respondents (16.7.0%) with 2 to 5 year experience. University and colleges promote Co-operative Education or WIL as an avenue for students to prepare for the workplace by supporting the development of the practical skills that employers value and to help ease student concerns around the transition into the labour market by providing employment experiences which boost their confidence (Drysdale and Mcbeath, 2012: 170) citing (Drysdale, Goyder,

Nosko, Easton, Frank and Rowe, 2007; Doel, 2007; Gardner and Choi, 2007; Stern et al., 1997).

6.4.2.2 Training of Co-operative Education Practitioners

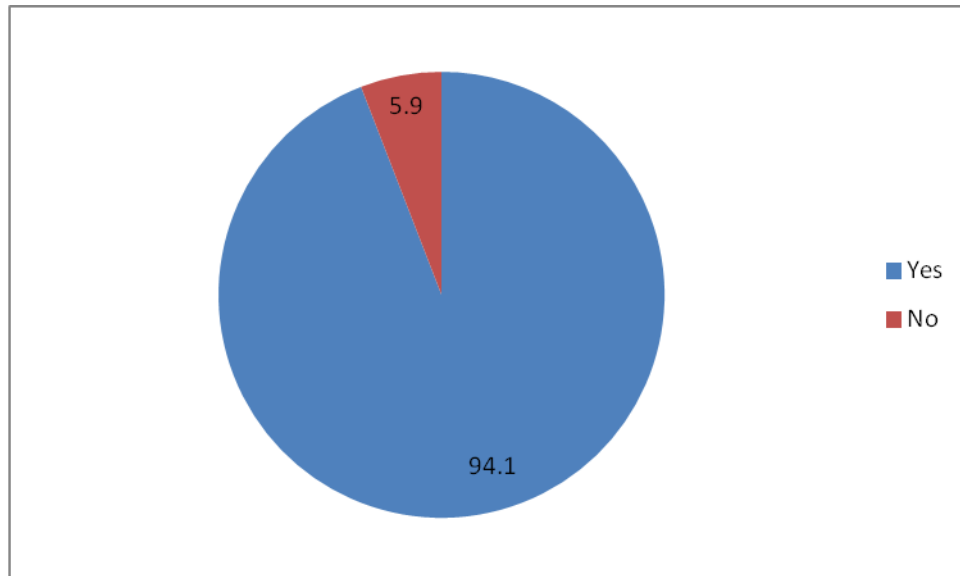
This section deals with training of the Co-op Practitioners. The **Pie Chart 6.4.2** below indicates whether training had been received to facilitate learners.



Pie Chart 6.4.2: Training received to facilitate WIL students

This is the informal workshop for training the Co-op Practitioners to facilitate WIL students and learner support in relation to desired attributes of Co-op Practitioners:- Learning Support System At DUT and Learning Cycle of WIL shown in Chapter 2 to name the few. Employers perceived that students were participating in Industry Based Learning (IBL) for the training and development aspects as well as to gain professional work experience (Bok, Evan and Levin, 2010, 5). A quarter of the respondents (23.0%) indicated that they had received training and 77.0% respondents indicated that no training received. Mackaway, Rowe and Winchester-Seeto (2012: 118) highlighted that the supervisor is involve to providing access to real life learning opportunities or helping students construct knowledge through talking and reflecting on practice (as cited from Fairbanks et al., 2000; Sim, 2010) or

actually providing training for specific workplace skills (as cited from Klink and Athaide, 2004).



Pie Chart 6.4.3: Training is needed to facilitate WIL students

Most of the respondents (94.1%) had indicated that training was needed and 5.9% respondents indicated that training not needed shown in **Pie Chart 6.4.3** above. Skills inventories provide an account of the abilities, skills, training and experience of current employees and can help identify skills gaps (Botha *et al.*, 2014: 59). Moreover, Bhatia and Cooney (2006: 99) assert that the starting points for training needs analysis are the business objectives of the organisation, including work activities that are to be undertaken, as well as the levels of skilled competencies in those activities that are to be achieved.

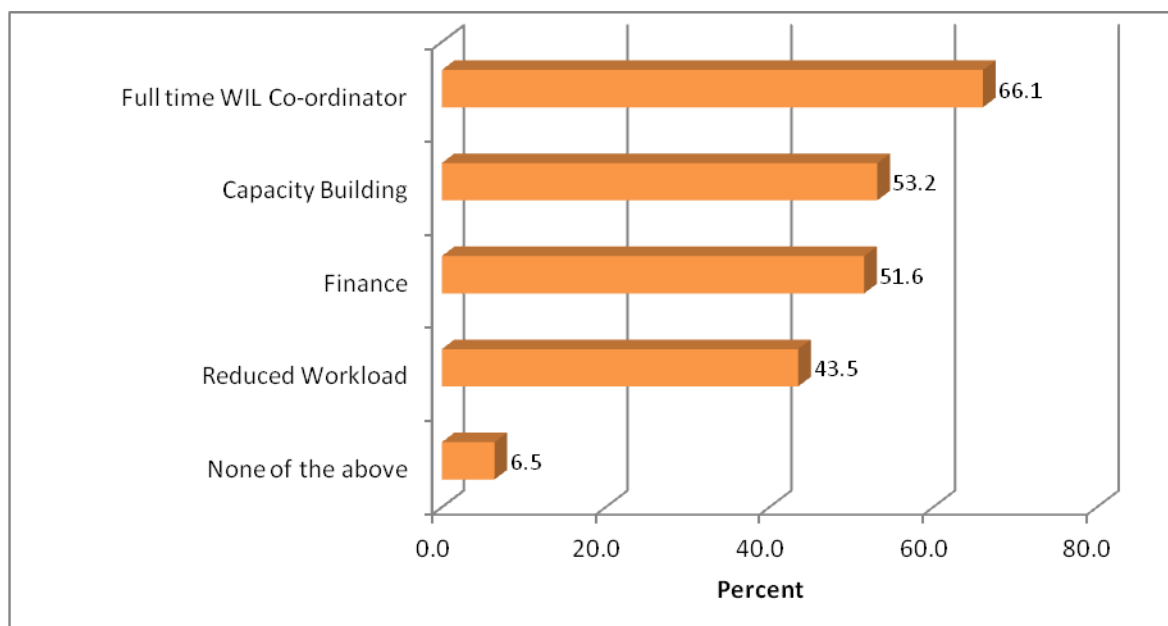


Figure 6.4.2: Departmental requirements from the institution (DUT)

(Multiple responses are presented as percentages of response; hence total would not be 100%)

The **Figure 6.4.2** above indicates the departmental requirements from the institution that will assist with facilitation of learner support. The most pressing issue was the appointment of a full-time WIL co-ordinator (66.1%). The capacity building (53.2%) for Co-operative Education Practitioners, WIL co-ordinator and University Mentor is important to facilitate learner support. Finance (51.6%) is a pillar of strength due to the travelling and accommodation of Co-op Practitioners to visit the employer and WIL students at very far places. Reduced workload (43.5%) is very crucial for WIL students because Co-op Practitioners have no time to concentrate on learner support. Mackaway, Rowe and Winchester-Seeto (2012: 117) highlighted that the support involves being available for the student (as cited from Drennan, 2002; McNamara, 2007; Rothman, 2007), making time for regular meetings, and cultivating a sense of belonging to the workplace (as cited from Clarke, Gibb and Ramprogus, 2003; Dunn and Hansford, 1997; Jackson and Mannix, 2001).

Figure 6.4.3 below indicates the skills and traits that are deemed necessary for learner facilitation.

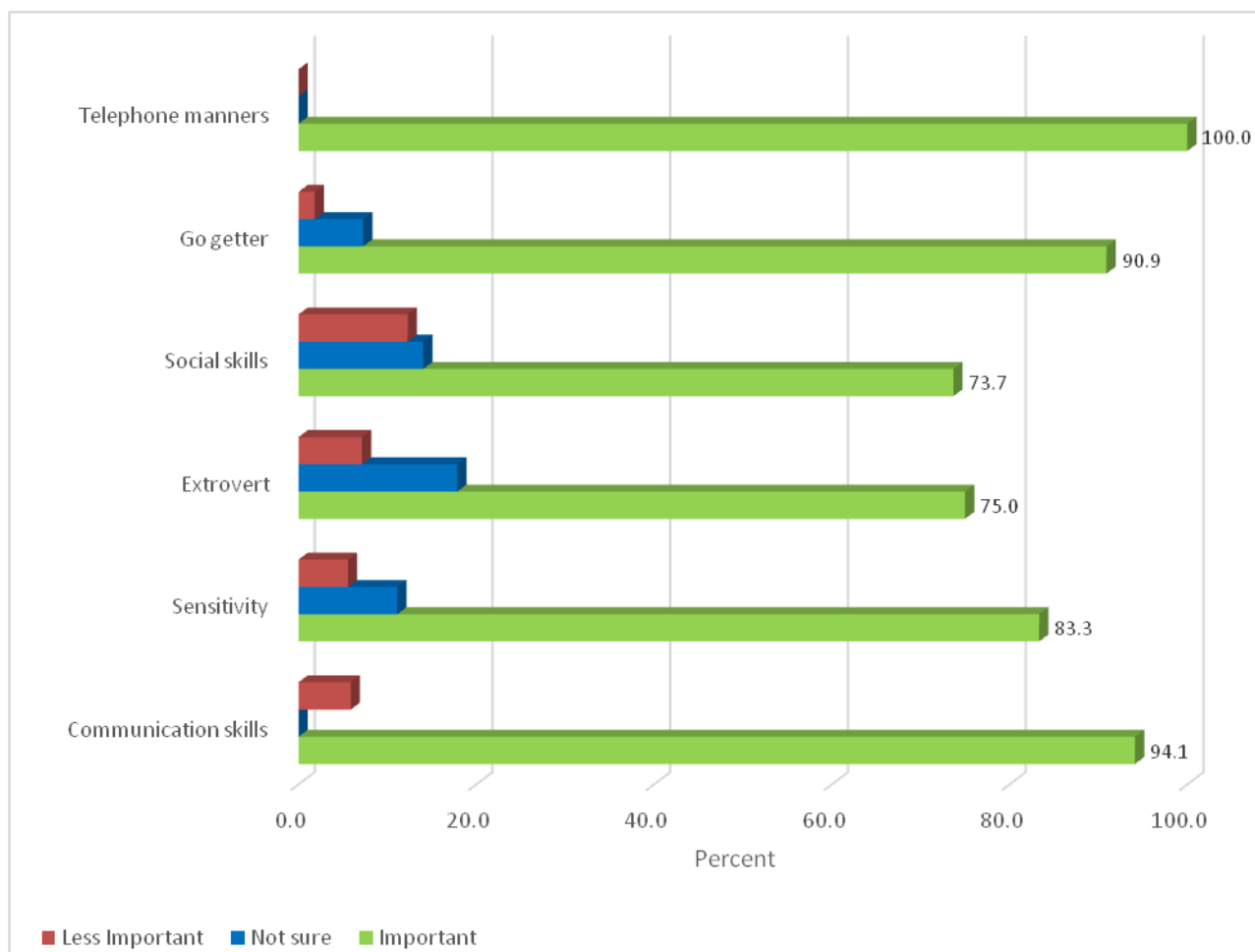


Figure 6.4.3: Skills and traits that are deemed necessary for learner facilitation

High levels of importance are assigned to all characteristics. A particular strength of the WIL experience is the ability to enhance those soft skills that could not be learnt in the classroom environment (Edwards, Martin and Rees, 2012: 24) citing (Fleming, Martin, Hughes and Zinn, 2009). The respondents indicated that being sensitive (83.3%) to the WIL students, extrovert person (75.0%) and having social skills (73.7%) ranked among the lowest of these. Dunn, Fonseca and Schier (2012: 136) citing (Hodge, Smit and Jones, 2004) highlighted that student learning must also involve more than skills acquisition and workplace competencies, with the development of 'soft skills' which relate to the practical application of theoretical principles and the student behavioural development.

Figure 6.4.4 below indicates the extent to which respondents acted as the following.

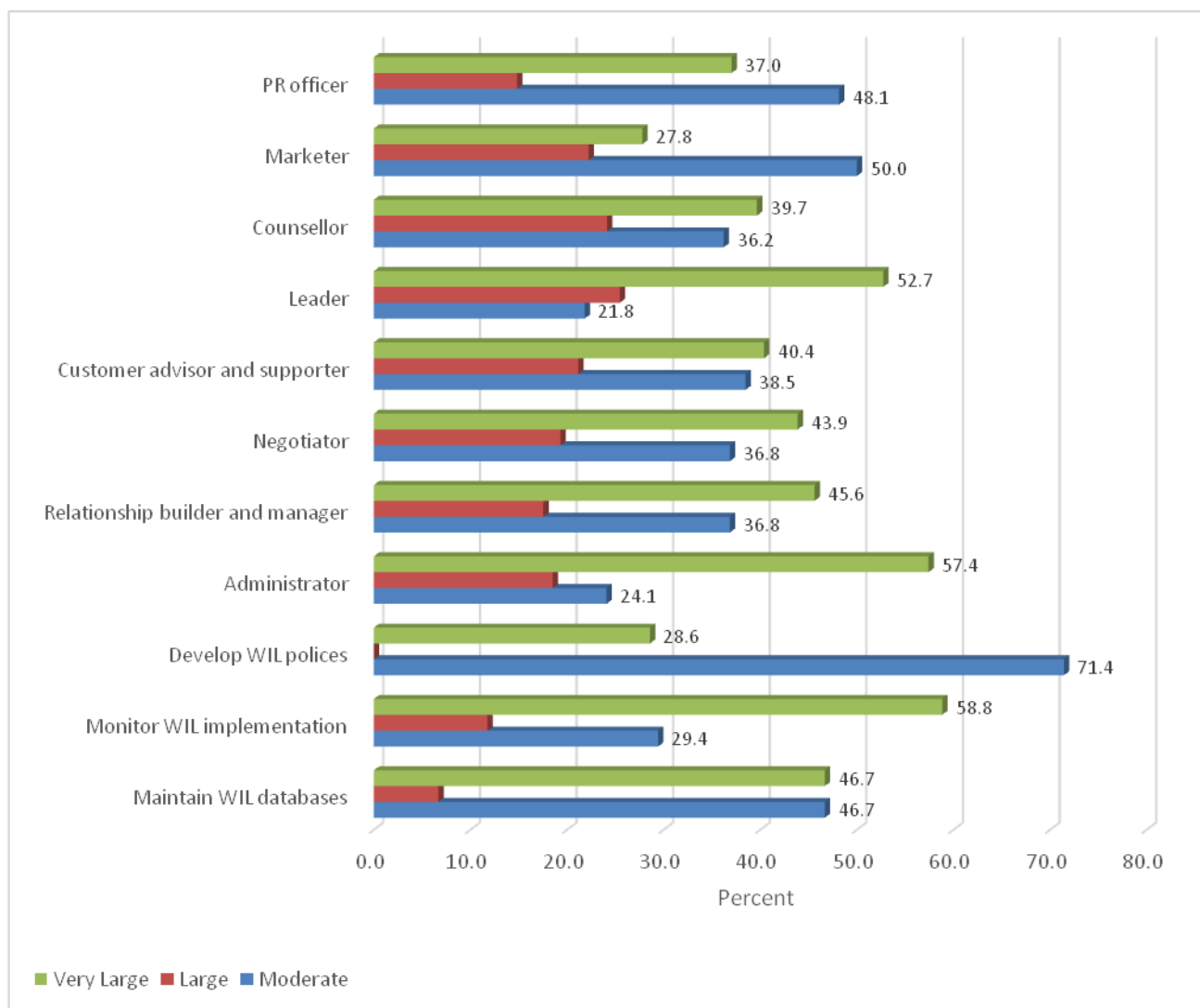


Figure 6.4.4: Extent to which respondents acted

The trend is for responses to be predominantly very large or moderate. Development of WIL polices (71.4%) is ranked moderate. The customer advisor and supporter (40.4%) are ranked very large. Edwards, Martin and Rees (2012: 29) warranted that the academic mentor provides advice and support to the student while the student is on placement and is a point of reference within the university to whom the student can turn for either academic/learning outcomes or administrative matters related to the placement. Whereas, the monitor WIL implementation (58.8%) and administrator (57.4%) are rank very large respectively. The negotiator (45.6%) is ranked very large. According to (Clarke and Llewellynn, 2012: 149) citing Lester (2007), negotiated work-based learning allows individuals in work to use their activities as a vehicle for high level learning and to gain an industry award. Simpson

and Swirski (2012: 240) citing Hunt (2009) highlighted that negotiation is key to running effective WIL programmes.

Figure 6.4.5 below denotes how important are the following changes with regards to learner support for WIL?

There are fairly high levels of agreement with all the statements except for increasing the duration of WIL (57.1%). The experience of the Industrial Supervisor (100.0%) is important so is the regular visit by mentor from the university (91.5%). Mackaway, Rowe and Winchester-Seeto (2012: 118) warranted that unlike the other three role which imply a hierarchical relationship between the student and supervisor, the support role entails a more collegial relationship, for instance the supervisor may share resource (e.g., knowledge and skills) and prior experiences, (as cited from Beck and Kosnik, 2002; Brady and Broadbent, 2007; Fairbanks, Freedman and Kahn, 2000; Hall et al., 2008; Le Cornu and Ewing, 2008) or may go out of their way to treat the student as part of the profession and the workplace (as cited from Beck and Kosnik, 2002; Hayes, 2001; Millwater and Ehrich, 2008; Pungur, 2007).

According to the respondents, formalizing the work preparedness programme to bear a credit (96.4%) for WIL students is important. According to Brown, Butler, Field, Gamble, Kift and Mcnamara (2012: 6) citing Abeysekera (2006) the key characteristics of WIL can be said to be the centrality of an authentic experience, the integration of university learning and practice, collaboration between universities, industry and students and the award of academic credit.

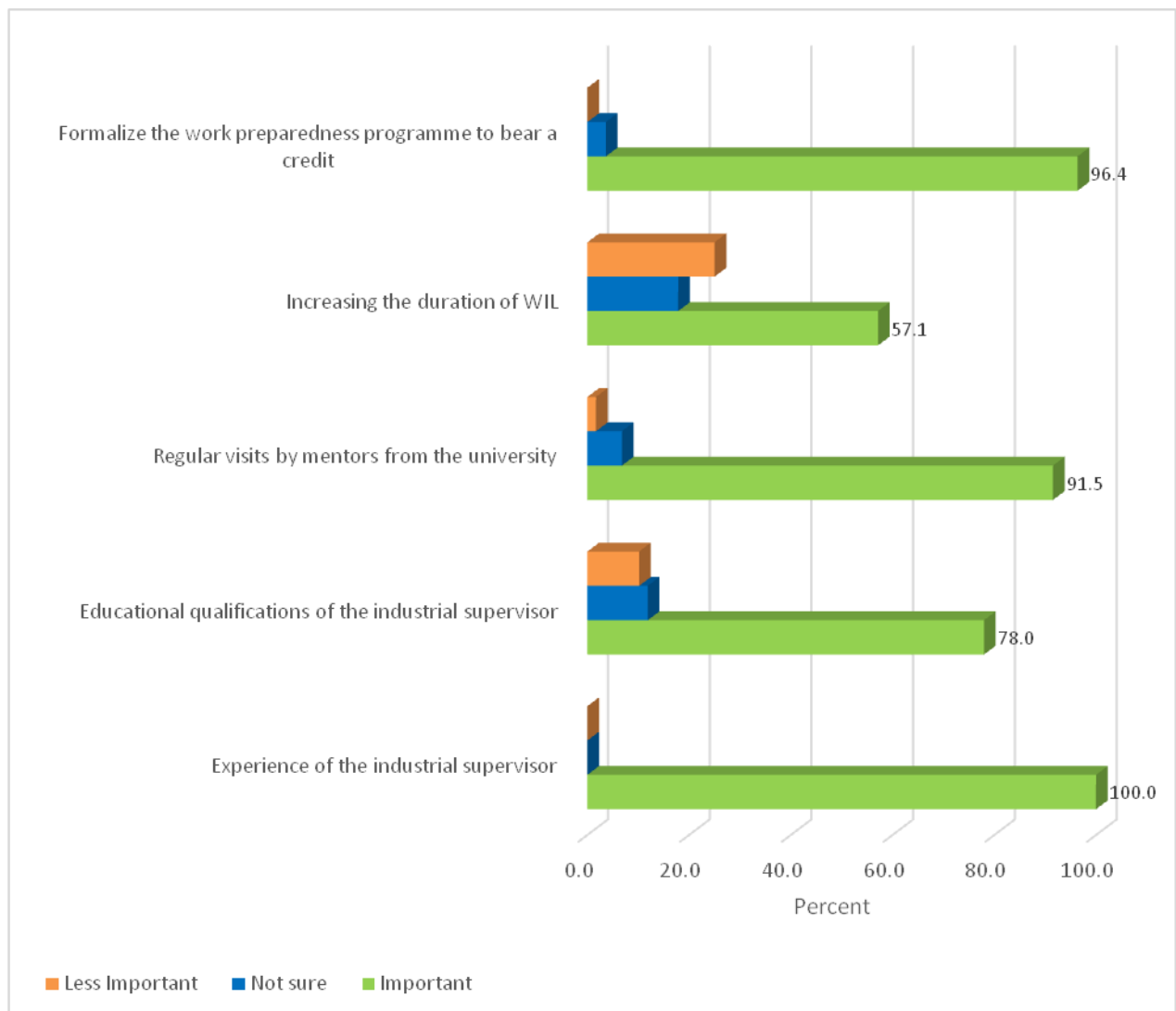


Figure 6.4.5: Changes with regards to learner support for WIL

Figure 6.4.6 below denotes the qualities, skills and attributes were ranked in order of importance relating to the facilitation of learner support.

Only networking skills (49.5%) and presentation skills (54.2%) were ranked as being more important than the other options. In all other instances, the majority of respondents chose the less important option. Teachers and supervisors can then adapt the placement to accommodate these attributes, ensuring the needs of each students are respected (Keele, Moss, Sturre, and Von Treuer, 2012: 71).

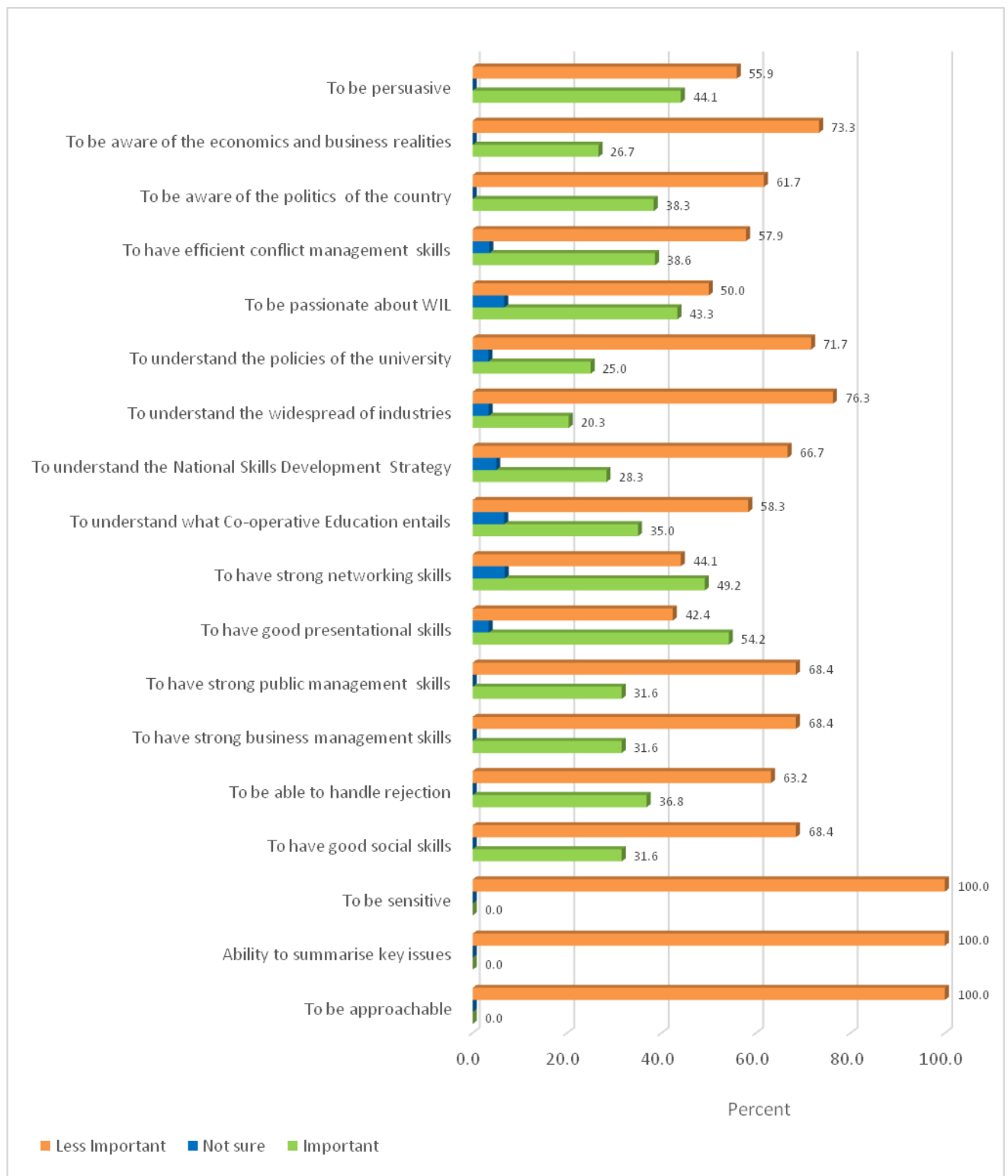


Figure 6.4.6: Qualities, skills and attributes ranked in order of importance

6.5 Findings, interpretation and discussion of the primary data for Employers/Industrial Supervisor

6.5.1 Reliabilities

These variables will be interpreted later in terms of inter-item correlation.

Table 6.5.1 below indicates the Cronbach's Alpha scores for the ordinal data in the construct.

Table 6.5.1: Cronbach's Alpha scores for the ordinal data

Section 2 Question Number of the questionnaires for Industrial Supervisor.	Cronbach's Alpha
Section 2 Question 15 To what extent have you played the following role of PR officer, marketer, leader, counsellor and negotiator with regards to learner support for WIL.	0.864
Section 2 Question 16 How important is the following with regards to learner support for WIL.	0.471
Section 2 Question 19 The following qualities, skills and attributes that are needed in order to facilitate learner support.	0.696

Section 2 Question 16 has a score that is lower than the acceptable level of 0.700.

6.5.2 Section analysis

This section investigates various aspects of biographical data of the respondents and learner support of employers/industrial supervisors.

6.5.2.1 Gender composition for employers

The tables and figure below is a summary of the biographical data of the respondents. **Table 6.5.2** below indicates the gender and race compositions of the students employed by organisations for WIL.

Table 6.5.2: Gender and race compositions

		Gender				Total
		Male and Female	Female	No specific preference	Male	
	Count	2	2	6	4	14
	% of Total	2.8%	2.8%	8.5%	5.6%	19.7%
	Count	6	8	10	8	32
	% of Total	8.5%	11.3%	14.1%	11.3%	45.1%
	Count	1	0	2	0	3
	% of Total	1.4%	0.0%	2.8%	0.0%	4.2%
	Count	1	2	0	0	3
	% of Total	1.4%	2.8%	0.0%	0.0%	4.2%
	Count	0	11	1	1	13
	% of Total	0.0%	15.5%	1.4%	1.4%	18.3%
	Count	0	0	1	0	1
	% of Total	0.0%	0.0%	1.4%	0.0%	1.4%
	Count	0	1	0	1	2
	% of Total	0.0%	1.4%	0.0%	1.4%	2.8%
	Count	0	1	0	0	1
	% of Total	0.0%	1.4%	0.0%	0.0%	1.4%
	Count	1	0	1	0	2
	% of Total	1.4%	0.0%	1.4%	0.0%	2.8%
	Count	11	25	21	14	71
	% of Total	15.5%	35.2%	29.6%	19.7%	100.0%

The coloured students female and male employed by organisations for WIL are 2.8% and 5.6% respectively. However, the African students female and male employed by organisations for WIL are 15.5% and 1.4% respectively. According to Edwards, Martin and Rees (2012: 25) citing Hodges (2011) the learning outcomes should also be determined between the student and work supervisor as they emerge during the course of the placement. It is interesting to note that the white students female and

male employed by organisations for WIL are 1.4% and 0.0% respectively. Industry partners offer placements for numerous reasons varying from financial imperatives (that is, a value-added ethos) to an approach based on stakeholder imperatives or a transformative ethos (Bok, Evan and Levin, 2010, 2). No specific preference students female and male employed by organisations for WIL are 11.3% and 11.3% respectively. Amongst the employers, nearly two-thirds (65.1%) were male and (34.9%) female. Keating (2012: 93) Nicolaides (2006) believes that industry needs to play a greater role in encouraging WIL experience for students as this provides an ideal opportunity for academics and employers to build long-term relationships and a greater potential for working together to meet industry needs and want.

Figure 6.5.1 below indicates the length of current position for Industrial Supervisors.

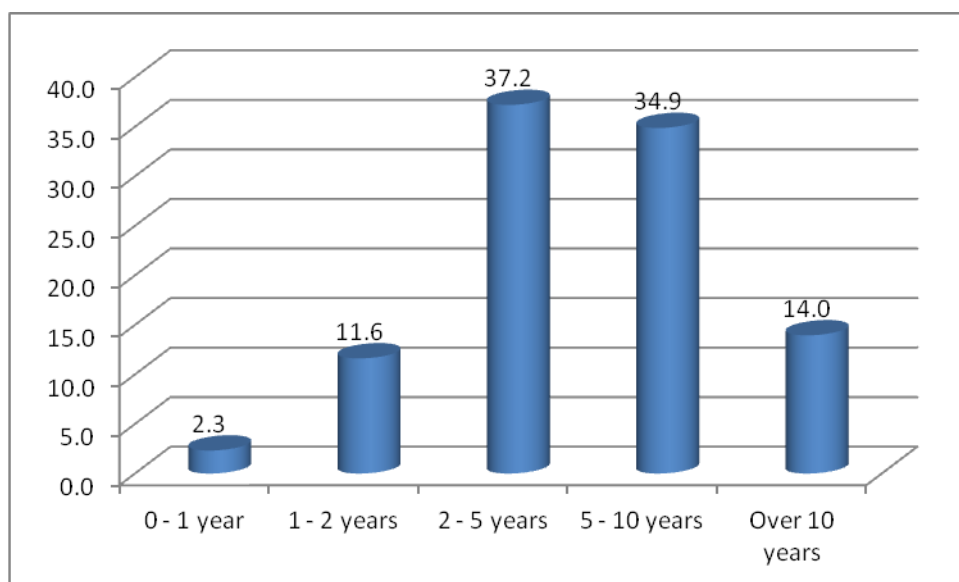


Figure 6.5.1: Length of current position for Industrial Supervisors

It is noted the majority of the length of current position for Industrial Supervisors have been at most 2 to 5 years (37.2%) and 5 to 10 years (34.9%) respectively. More than 14% of the Industrial Supervisors have held their positions over 10 years.

6.5.2.2 Importance of learner support for WIL

The average number of students employed for WIL per year is given below.

Table 6.5.3: Case Processing Summary

N	Valid	77
	Missing	5
Mean		4.43
Std. Deviation		3.559

Table 6.5.4 below deals with the role of Industrial Supervisors versus the learner support.

Table 6.5.4: Role of Industrial Supervisors versus the learner support

	Industrial Supervisors				
	None	Moderate	Large	Very Large	Extremely Large
PR officer	38.9	33.3	11.1	5.6	11.1
Marketer	44.4	27.8	13.9	8.3	5.6
Counsellor	10.0	35.0	27.5	17.5	10.0
Leader	8.1	18.9	29.7	24.3	18.9
Customer advisor and supporter	21.6	16.2	43.2	10.8	8.1
Negotiator	34.2	21.1	26.3	7.9	10.5
Relationship builder and manager	20.5	12.8	33.3	20.5	12.8
Administrator	10.8	16.2	35.1	29.7	8.1

Mackaway, Rowe and Winchester-Seeto (2012: 117) citing Bray and Nettleton (2007) and Gray and Smith (2000) highlighted that host supervisors are generally expected to offer support and guidance to students. 43.2 percent indicated that the role of Industrial Supervisors is large in relation customer advisor and supporter. 29.1 percent indicated that the role of Industrial Supervisors is large in relation to the leader. 33.3 percent indicated that the role of Industrial Supervisors is large in relation to the relationship builder and manager.

Industry participants also indicated that they play a role of being a counsellor during the time that they host WIL students in their organisations. **Table 6.5.4** exhibits the responses of the industry participants to the question that seeks information on role that they played as counsellors to WIL students. It is shown in **Table 6.5.4** that 27.5% play this role to a large extent, 17.5 percent play this role to a very large extent and 10.0 percent play the role of being a counsellor to student to an extremely large extent. According to Brimble and Freudenberg (2010: 2) WIL also improves the transition from university to work and productivity outcome for the employer and the economy. The skill of counselling young students does not come naturally. This suggests that facilitators of learner support should be subjected to training. In all Co-operative Education programmes, university co-ordinators are required to manage difficult situations that involve one or all parties – students and supervisors.

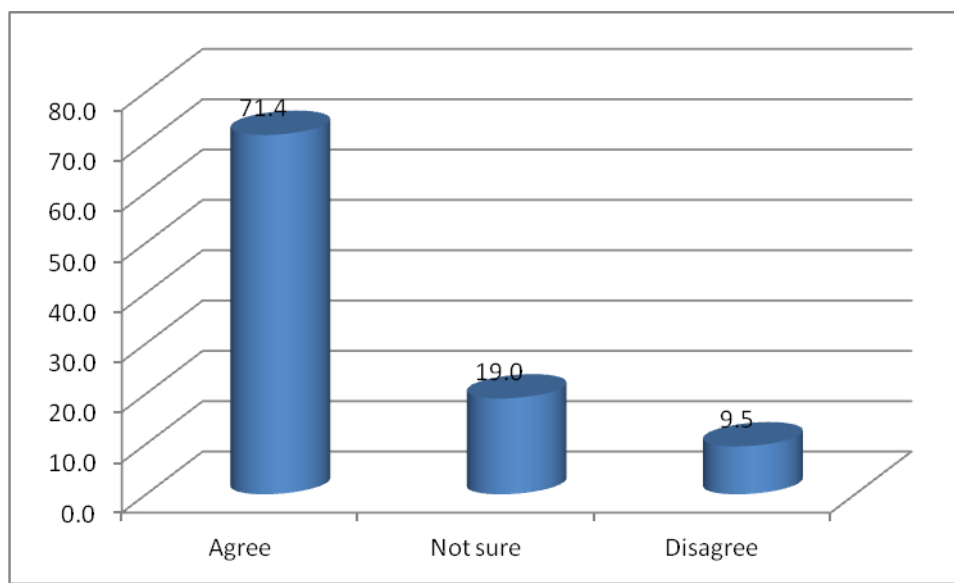


Figure 6.5.2: The students are properly supported during WIL

According to (Clarke and Llewellynn, 2012: 149) citing (Lave, 1993) in relation to this research, the tertiary context, the academics' world of work provides an authentic and valuable site for work-based learning and ensuring the learning opportunities are intentionally planned, well designed and effectively supported will contribute to the quality of what takes place in the workplace. 71.4 percent of the Industrial Supervisors believed that the WIL students were properly supported. However, 19.0 percent and 9.5 percent are not sure and disagree respectively. Below three quarter

of the respondents agreed that the WIL programme was beneficial shown in **Figure 6.5.2**. Mackaway, Rowe and Winchester-Seeto (2012: 118) believe that in certain situations, emotional support may also be required, and involves assisting students to alleviate feelings of stress, anxiety and inadequacy (as cited from Beck and Kosnik, 2002; Chow and Suen, 2001; Hall et al., 2008; Jackson and Mannix, 2001) and debriefing after critical incidents or distressing situations (as cited from Pungur, 2007; Williams, 2009). Upon graduation, well-supported learners are better suited to the needs of your industry. Several studies have shown that Co-operative Education or WIL enhances student employability (Drysdale and Mcbeath, 2012: 170) citing (Drysdale et al., 2007). Also, Edwards, Martin and Rees, 2012: 23 reported WIL provides the opportunity for the student to develop both personal and professional attributes and enhance employability upon graduation.

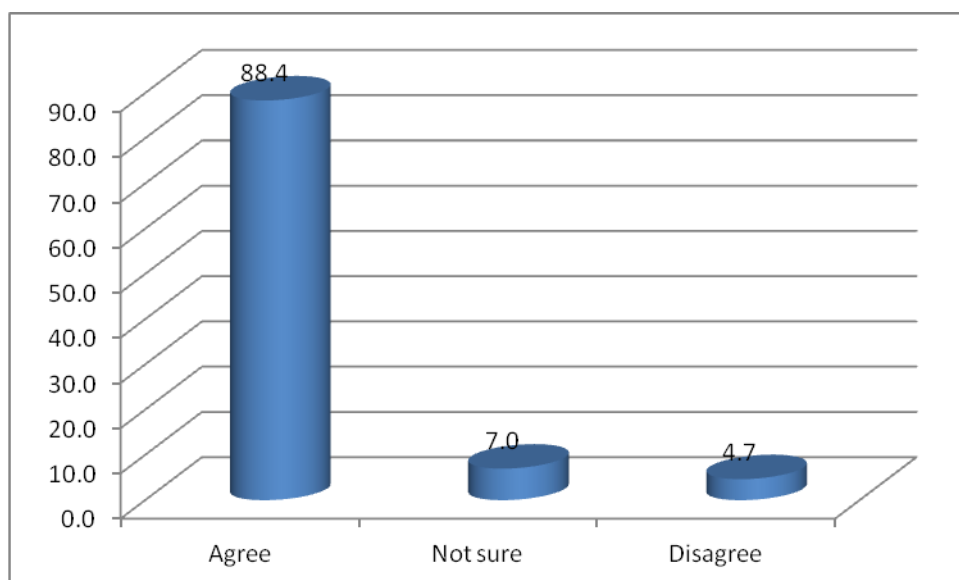


Figure 6.5.3: The lack of support to a WIL students contribute to their failure

Figure 6.5.3 above denotes the Industrial Supervisors that agreed (88.4%) that lack of support of the WIL students contribute to their failure. Fifolt and Searby (2009: 55) highlighted that the lack of an appropriate support system may be especially detrimental for underrepresented minorities who (a) place primary value on people and groups over grades and status (as cited from Seymour and Hewitt, 1997), (b) lack familial and societal role models (as cited from Gardella, Candales and Ricardo-Rivera, 2004). However, 7.0 percent and 4.7 percent are not sure and disagree respectively. According to Dunn, Fonseca and Schier (2012: 136) the employer or

mentor should also authenticate evidence of the development of these hard and soft skills.

Table 6.5.5: Work readiness of the WIL students

		Group	Total
		Employer	
	Count	4	4
	% within Group	9.5%	9.5%
	Count	18	18
	% within Group	42.9%	42.9%
	Count	16	16
	% within Group	38.1%	38.1%
	Count	1	1
	% within Group	2.4%	2.4%
	Count	3	3
	% within Group	7.1%	7.1%
	Count	42	42
	% within Group	100.0%	100.0%

According to (Clarke and Llewellynn, 2012: 149) citing (Billet, 2001) the readiness of the workplace to afford opportunities for individuals to participate in work activities, access and direct support are key determinants in the quality of learning that arises from that participation. Employers responded to the statement as in **Table 6.5.5** above. All but 10% indicated that WIL students were better prepared. 42.9 percent of the employers believed that good work readiness of the WIL students immediately after placement. However, 38.1 percent and 7.1 percent are satisfactory and poor respectively. Placements are integral to many university courses and to increasing student employability skills (Keele, Moss, Sturre, and Von Treuer, 2012: 65).

Table 6.5.6 below denotes the qualities, skills and attributes that are needed in order to facilitate learner support. 69.8 percent of the respondents from the employers indicated that the ability to apply knowledge to new situations was extremely important. Chapter 4 confirmed that these attributes can be used in widen the links between the university and industry to create opportunities for WIL. Also, 79.1 percent of the respondents thought that attitude to the work situation an extremely

important trait. According to Drysdale and Mcbeath (2012, 169) citing (Gardner and Choi, 2007; Walters and Zarifa, 2008) employers expect specific professional skills from the new graduates they hire, such as the demonstrated ability to build working relationships, strong analytical reasoning, and being able to work effectively in a team.

Table 6.5.6: Qualities, skills and attributes of Industrial Supervisors

	Extremely Important	Important	Not sure	Least Important
Ability to apply knowledge to new situations	69.8%	27.9%	2.3%	0
To recognise a problem situation	69.8%	27.9%	2.3%	0
Ability to choose appropriate information to address problems	55.8%	44.2%	0	0
Ability to plan and execute tasks independently	41.9%	53.5%	2.3%	2.3%
Ability to monitor and evaluate own work related actions	41.9%	46.5%	9.3%	2.3%
Ability to devise ways to improve own actions	32.6%	65.1%	2.3%	0
Understanding of changing workplace practices	41.9%	46.5%	7.0%	4.7%
Ability to deal with different practices	41.9%	53.5%	2.3%	2.3%
Attitude to the work situation	79.1%	20.9%	0	0
Desire to learn and continue learning	88.4%	11.6%	0	0

Furthermore, 88.4 percent of the respondents believed that desire to learn and continue learning an extremely important attribute. 65.1 percent of the respondents from the employers indicated that the ability to devise ways to improve own actions is important. 53.5 percent of the respondents from the employers indicated that ability to plan and execute tasks independently is important. National Strategy on Work Integrated Learning in University Education (2015: 3) in Australia highlighted that given the benefits of WIL to employability, workforce skills and productivity, supporting industry and community based employers and the economy, ensuring a sustainable increase and broadening of WIL opportunities to develop our human capital is crucial.

6.6 Conclusion

This investigation has a summary of the aspects to take it into consideration:

- Formalise Work preparedness Programme and render it as a credit bearing module. This would encourage students to take it seriously and attend it regularly.
- Learner support mechanisms such as the visits by university mentors, coaching and monitoring should be improved.
- WIL does improve the employability and the marketability of students who have undertaken it. Therefore, attempts to minimize it or removing it from the curriculum must be discouraged.
- Industrial supervisors were singled out by graduates to have had a positive impact on their learning during WIL.
- This suggests that Co-op Practitioners must be properly supported in terms of capacity building in order to boost their confidence in the good work that they do. (Mentorship workshops).
- Co-op practitioners should be knowledgeable and friendly persons especially to underperforming students.

The procedures that should be applied to prepare, allocate, monitor and coach students are not understood extensively (Keele, Moss, Sturre, and Von Treuer, 2012: 66) citing (Coll and Zegwaard, 2006) and vary substantially across departments and institutions (Keele, Moss, Sturre, and Von Treuer, 2012: 65) citing (Bullock, Gould, Hejmadi and Lock, 2009).

6.6.1 WIL students

Students who are exposed to the working environment and learn what is expected of them, understand the importance of theory and are equipped with experience. Students who are completing WIL are learners first, it is essential to receive additional support either from the department or faculty especially in the first month

of training. In order to perform at optimal level learner support is essential so that they are confident and comfortable in any working environment. Monitor student regularly, submit assignments to DUT, R & D projects application – in line with study programme.

6.6.2 WIL Graduates

Graduates must be prepared and be able to adjust to industry environment. They must be programmes in place which must be reviewed very often. Improve communication abilities and prepare computer skills knowledge.

6.6.3 Co-operative Education Practitioners / University Mentors

Staff to monitor student training and direct access to supporting lecturer or facilitator would resolve issues easily. Co-op Practitioners must brief student about WIL. There should be more formalised training requirements based on the course. The University Mentor to visit frequently. Personal problems that are likely to impact on performance during placement period and exposure to life skills while at university. Instil understanding of productivity and the risks associated with it. It is important that students are psychologically prepared for industry.

6.6.4 Industry supervisors/Employers

Institutions to listen to industry needs, most information taught are obsolete, and computer networking should be offered to all students. Learning institutions must be in touch with industry needs, student must know about optimising of existing equipment and troubleshooting. Institutions must have regular meetings and training programmes and provide suggestion box for students. The final chapter deals with conclusions, recommendations and future work.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

Key to the success of any project is vision, the formation of working partnerships, a common goal and willingness to work hard to reach your goals. It is documented in literature that in some instances, industry supervisors expect unrealistic outcomes from students, equally, the opposite can occur where a student is not sufficiently challenged by the assignment or work that they are required to perform. In some international institutions such as the University of Waikato in New Zealand, a student is required to enrol for a pre-placement paper at second year level. It is recommended that DUT and other UoT in South Africa should formalize the work preparedness programme and offer it as a credit bearing module. This would encourage students to take it seriously and attend its classes regularly. All these elements were present in this study to up-skill the learners make them work-ready. This investigation is underpinned by the principles of Co-operative Education and promote partnership between the institution, the learner and industry. The researcher believes that this study will clarify the role of Co-op Practitioners and develop learning materials to address their capacity needs for learner support.

7.2 Conclusions

This study recognizes the fact that there are students who would be underperforming in the workplace during their training. Therefore, an investigation must be undertaken to measure the improvement of weak students after more attention has been paid to them by employers. A larger (88.4%) of employers in this study indicated that the lack of learner support may have a negative impact on the success of WIL students. Therefore, learner support mechanisms such as the visits by university mentors, coaching and monitoring should be improved. Ferkins and Fleming (2011: 184) support this when they explain that as the university staff visits

students in industry, the interaction with industry supervisors and other staff helps university staff to stay abreast of the changes occurring in industry. They further explained that the university is better able to respond and ensure that a highly-relevant curriculum is offered. In Chapter 4, Brennan and Little were cited for explaining that job descriptions of industry mentors may be drawn up emphasizing the formal functions for learner support. Chapter 4 also exhibited the fact that it is important for industry mentors to understand the behaviour of students because WIL students spend a lot of time under their care. This would assist them know how to act or handle different situations. However, this must be done carefully to ensure that it does not lead to spoon feeding the student as this may have a negative effect on them after the training. Furthermore, research is warranted to aid an understanding of whether participation in Co-operative Education has a similar impact on these attitudes and behaviours (Drysedale and Mcbeath, 2012: 171). A large percentage of industry supervisors have shown willingness to assist and look after WIL students despite the additional responsibilities that this brings on their shoulders. Regardless, it is in the opinion of the researcher for all the stakeholders that are involved to note the importance of clarifying the roles of Co-op Practitioners and industrial supervisors in order to avoid unnecessary duplication. It was also pointed out in literature that during Co-operative Education/WIL students anxiety increases when there are no clear expectations, when the student's role is not clearly articulated, and where there is a poor or no integration of the practice back to the previously learned theory.

This study also recognizes the fact that students value the 'realism' benefits of Co-operative Education/WIL experiences that improve their employability. In Chapter 4, the employers have rank the student's employability strongly agree (28.21%) and agree (64.1%) respectively. Ferkins and Fleming (2011: 183) pointed out that many sport and recreation organizations use Co-operative Education and work placement programmes to identify potential employees. A study of sport industry expectations of key student and graduate competencies indicated that, to maximize the co-operative education experience for students and to enhance employability, academic programmes within the university need to provide opportunities for students to develop competencies including the ability and willingness to learn as well as the use of initiative and personal organizational skills.

According to the response of the employers who took part on this study, WIL does improve the employability and the marketability of students who have undertaken it. Therefore, attempts to minimize it or removing it from the curriculum must be discouraged. Employability matters to students, and it is one of the outcomes that motivate students to participate in Co-operative Education (McRae & Ramji, 2011: 352). Also, industrial supervisors (31.31%) were singled out by graduates to have had a positive impact on their learning during WIL. Brennan and Little (1996: 89) cited Little and Nixon (1995) who also recognised workplace supervisors are in close and continuous contact with learners during the period of work-based learning. Secondly, in some programmes there is resistance from academic staff to facilitate support for learners that undertook WIL. This suggests that they must be properly supported in terms of capacity building in order to boost their confidence in the work that they do. This can be achieved by offering short courses and hosting workshops to train them and improve their skills.

This investigation has exhibited the fact that there is merit in training supervisors and mentors, especially those who are beginners in overseeing students. However, it is an opinion of the researcher that the supervisors who have been involved in training students for a long period would be reluctant to accept an invite to attend a course for training students. Therefore, the marketing of this envisaged training be carefully done in such a way that it does not undermine the good work that has already been done by the current supervisors and mentors. Hence it is recommended that this course should not be offered as a compulsory training.

This study also suggests that Work Integrated Learning can be more efficient if all the factors in **Table 4.3.1** and **4.3.2** can be taken into consideration. It has also been highlighted that Co-op practitioners should be trained in order for them to discharge their roles of facilitating learner support seamlessly. This suggests that a model of the training programme has to be designed in such a way that it incorporates the qualities, skills as well as personality traits that are listed in **Table 4.3.1** and **Table 4.3.2**. According to Porter and Stellar (2011: 195) it is important for Co-op Practitioners to work with employers to develop quality placements; it is crucial to prepare students for success in the job search and also to prepare student for success in the workplace through making students aware of appropriate behaviour in

the workplace, the value of networking, the opportunity to maximise their learning and their contributions through asking questions and asking managers for more.

Regular visits by the University Mentors to monitor the progress of WIL students is an extremely important activity of learner support as the graduates also indicated that this had a positive impact towards their personal growth. The lack of these visits may lead to the student's failure. This suggests that such visits should be a standard feature in all WIL programmes. In some programmes, the period that a learner spends at a workplace should be extended to allow them to find their feet and apply what they have learned. The educational value of WIL in authentic workplace setting is well documented, and has been practiced for many years in technical, vocational, occupational and professional settings (Blom, 2014: 1).

The results and outcomes of qualitative approach interviews in Chapter 5 revealed that Co-op Practitioners need to be equipped with leadership, coaching, negotiating, networking, marketing, public relations, communication, fundraising, conflict resolution, guidance, counselling as well as problem solving skills. This suggests that training is important in order to develop and capacitate Co-op Practitioners with such skills especially the beginners in the practice of Co-operative Education. This is essential in order for them to handle all situations, challenges and shortcomings with regards to students. Hodges (2011: 58) suggested that the academic's role be the one of facilitator/trainer (e.g in helping employers and students in determining as well as subsequently making judgements against the criteria), moderator (ensuring judgments made and evidence presented are fair and adequate) and interpreter (making sense of the qualitative and quantitative judgements made to formulate the academic outcome, such as the determination of a pass/fail grade) In some programmes, the period that a learner spends at a workplace should be extended to allow them to find their feet and apply what they have learned.

Table 6.3.7, Table 6.3.8 and Table 6.5.6 also suggests that Co-op Practitioners should also have strong public management skills, good presentational skills and strong networking skills so that they can be advocates of WIL and secure placement opportunities. These skills do not come naturally. They can be acquired through training. While school based learning is important in helping students develop skills

for knowledge acquisition and critical thinking, the opportunity for workplace experience should allow them to apply their knowledge to real world situations and develop interpersonal skills such as conflict resolution, communication and networking Drysdale and Mcbeath (2012, 170) citing (Hanneman and Gardner, 2010). A well supported learner can gain confidence easily and adapt quickly at a workplace. This study also accepts the fact that the learner's success is directly proportional to the amount of effort that they put into their work. This means that the learner must be a willing participant in order for the support to work. This may empower them to bring new ideas and initiatives into the workplace.

According to the opinion of the employers, WIL students are adequately prepared to enter the world of work after having gone through the work readiness workshops. A small percentage disagreed to this. 42.9 percent of the employers believed that good work readiness of the WIL students immediately is applied after placement. This suggests that the programme should be improved and as suggested above, it must be enforced to students. A baseline study on South African Graduates from the perspective of employers that was undertaken by Griesel and Parker (2009; 14) revealed that graduates general have an ability to deal with different cultural practices which suggested that higher education does expose students to different cultures in positive ways. In the multi-cultural context of South Africa this is an important outcome as it prepares them well, not for South African working conditions, but for global mobility. Griesel and Parker (2009; 20) also concluded that the boundary between the university and business needs to become more porous in a sense that students need to have a clear idea of the expectations of their future employees.

The comments by employers and university employees also exhibited the fact that the abilities to impart knowledge, handle rejection, follow-up on initiatives, building and maintaining strong continuous industry liaison, motivation of students, time management, to have empathy as well as planning of responsibilities are extremely essential. This suggests that it is important to build capacity for every Co-op Practitioner on such aspects. It also came out that being sensitive to student issues, responding quickly, as well as openness and social techniques are very important commodities. This study does acknowledge the fact that some of these

competencies cannot be taught in class such as punctuality and sensitivity to name the few, but it is essential for Co-op Practitioners to be made aware of them. This suggests that a special training programme has to be designed in such a way that it incorporates these skills, as well as the qualities and personality traits that are listed in **Table 4.3.2** and **Table 6.5.6**. According to Drysdale and Mcbeath (2012, 169) citing (Gardner and Choi, 2007; Walters and Zarifa, 2008) employers expect specific professional skills from the new graduates they hire, such as the demonstrated ability to build working relationships, strong analytical reasoning, and being able to work effectively in a team.

Co-op Practitioners should be knowledgeable in order to be capable of supporting underperforming students. Lay and Tod (2011: 119) pointed out that in some cases, poor student performance is due to bad employer/student/colleague relationships in which case the co-ordinator can act as an intermediary to try and resolve issues. DUT is proposing to incorporate General Education in its curriculum. This can also be used as a vehicle to support and develop students on the skills that cannot be taught in a content-based curriculum. This is also supported by The New Growth Path (n.d.: 19) document as it states that General Education must equip all South Africans to participate in our democracy and economy, and higher education must do more to meet the needs of broad-based development. Universities of Technology must begin to see learner support services as part of their core business. Student support services at undergraduate level must be taken seriously as a vital and strategic activity of all universities (Green Paper for Post-School Education and Training, 2012: 43). Higher Education relies on Co-op Administrators learning their administrative responsibilities by doing and then reflecting on the experience in order to produce some level of knowledge that will guide future actions (Howison *et al.*, 2011: 340). They learn their jobs through a variety of informal learning methods, often unknowingly and frequently in isolation (Howison *et al.*, 2011: 343).

According to the summary of qualitative results on interviews in Chapter 5 follows:

- The students do not know the industry that they are going to work for when they graduate. Therefore it is recommended that student exposure to industries is extremely important. For example, excursions, factory visit

and/or arranging industry tours with action assignments with regards to these visits can also produce a good outcome for students in terms of exposure.

- The practice teaching students who are also WIL students are sometimes subjected to abuse by schools in terms of giving them full responsibilities of teaching like fulltime employees with limited training. This defeats the purpose of WIL and is tantamount to cheap labour.
- A downturn in their student's ability to work with other employees. Furthermore, the right attitude for students with regards to taking instructions from their supervisors is sometime not good. Also a sense of entitlement from the side of students when it comes to financial allowances and stipends that they receive from employers and the institutions by SETA funding.
- Some students would leave the laboratory with the lab coat on, take extended lunch breaks without requesting or notifying the industrial supervisor and walk out of the premises of the employer. Again, it is envisaged that the training of supervisors would equip them with the proper and necessary skills to take leadership and discourage such student behaviour.
- Permanent employees sometimes do feel threatened that WIL students will be considered for their jobs. In some cases they have no respect for students since some of them are young and lack experience.
- The other crucial need for students is the support terms of CV writing and interview skills as well as work ethics in order for them to develop the drive to market themselves.
- Challenged students need to be given a special attention, as it was discussed in Chapter 4. Employers indicated that they would give such students more work and responsibilities to help them find their feet.

After having noted all of the above, the researcher concluded that students need workshops of training and support in order for them to be made aware of the fact that a placement is an opportunity for them to be exposed to the real world. The support that is needed by students when they are placed in industry includes the following:

- They need to be given a learner guide or WIL training manual that explains all the details and procedures of WIL.
- They also need to be visited by the Co-op Practitioners in order to monitor their progress whilst they are still at the stage of finding their feet. It should be noted that students are nervous at this stage. In some cases it is found that these students are afraid to speak up and raise issues of their concerns. This may lead to a learner making irrational decisions like absconding

According to the summary of quantitative results in Chapter 6 follows:

This section deals with the results of the investigation on perspectives of WIL students about learner support that they receive for stakeholders that were involved in their supervision. **Figure 6.2.3** represents the rating of the support received by respondents on WIL training. Mentors and Industrial Supervisor were rated for support for the WIL students is unsatisfactory 6.1 and 6.6% respectively. A little more than half of the respondents (54.0%) believed that at least one mentor contributed to their personal growth. This suggested the training and mentoring. **Figure 6.2.4** shows the approximately a quarter of the respondents from the side of WIL students (24.3%) indicated that they did not receive any visits from the university mentor. In Chapter 5 there was a discussion that in programmes such as Analytical Chemistry from DUT, monitoring is done twice a semester with continuous engagements electronically as well as telephonically. This is a very helpful activity. Co-op Practitioners are offering a spontaneous response in addressing problems especially on the academic side. It helps a lot as some of the students face challenges of not receiving enough support from the industry side as supervisors can get too busy. This suggested mentoring workshops. **Figure 6.3.4** indicates the influence of other people on the graduates whilst on WIL. Most respondents (25.5%)

identified the Industrial Supervisor as being the most influential. This is explained in Chapter 4, that, firstly this is due to the fact that WIL students spend the whole training period (which is three, six months or a year depending on the requirements of their academic programme) in the care of the employers. This suggested mentoring workshops for employers. **Figure 6.4.3** indicates the skills and traits that are deemed necessary for learner facilitation. The Co-op Practitioners indicated that being sensitive (83.3%) to the WIL students, extrovert person (75.0%) and having social skills (73.7%) ranked among the lowest of these. It is the view of the researcher that some of these traits happened outside the classroom. 71.4 percent of the Industrial Supervisors believed that the WIL students were properly supported. It is interesting to learn that three quarter of the respondents agreed that the WIL programme was beneficial shown in **Figure 6.5.2**. In **Table 6.5.5**, 42.9 percent of the employers believed that good work readiness of the WIL students immediately after placement. This suggested the mentoring workshop for work preparedness all the stakeholders.

7.3 Recommendations

This investigation recommends the following:

7.3.1 Training of Co-op Practitioners and Industrial Supervisors

This investigation has exhibited the fact that there is merit in training supervisors and Co-op Practitioners who are beginners in overseeing students. Higher Education institutions are under pressure to provide the industry with job ready graduates, who require minimum training and understand what is required of them in the so-called real world (Wolf, 2012, 2). However, it is an opinion of the researcher that the supervisors who have been involved in training students for a long period would take offence to an invite to attend a course for training students. Therefore, the marketing of this envisaged training be carefully done in such a way that it does not undermine the good work that has already been done by the current experienced supervisors and mentors. Hence it is recommended that this course should not be offered as a compulsory training as follows:

- A skills training programme needs to be developed in order to address the shortcomings and challenges in learner support facilitation. The skills training programme step of development is 4-fold: (a) programme initiation, (b) implementation, (c) embedding, and (d) continuous improvement (Appleby, Clements and Hays, 2012: 1), with the year 2016 intended to reflect that learner support facilitation was fully embedded and integrated and, chiefly, that learner support facilitation was an integral part of all undergraduate programmes.
- This training programme can also be used to capacitate the facilitators of learner support. Similar programmes were introduced to train entrepreneurship knowledge and skills at universities in Sweden (Ahmad, Keat and Mahat, 2012, 4). These authors (Ahmad, Keat and Mahat, 2012, 4) highlighted the programme called Entrepreneurship and New Business Development programme (ENP) was designed for training individuals in the start-up of new-technology.
- The skills programme can also be used to enhance the quality, competencies and personality traits of learner support facilitators. Institutions who can demonstrate that their learning outcomes reflect the skills and attributes desired by the industry will in return be equipped with a powerful marketing advantage as their graduates are more likely to be employed (Wolf, 2012, 2) citing (Rundle-Thiele, Bennett and Dann, 2005).
- This training would also be used as a model that is replicated and adapted by other institutions of higher learning. According to Ahmad, Keat and Mahat (2012, 3) the model approach refers to close training-practical relationship between academicians and SME owners to provide graduates, with crucial experience in real business activities.
- This training should also be used as part of career pathing and succession planning. The period between study and career is understood as a hiatus and appears to be treated by both university and organisation as a no man's land,

with neither necessarily having the responsibility, resources or mechanisms to work in the transition space (Clements and Hays, 2012, 4).

The training can be offered in the form of short courses for beginners. This would work effectively if facilitators are selected using specific criteria, and interest that will be reinforced by the training. It is also recommended that training would be helpful to people who are willing to learn and using the skills that are acquired.

7.3.2 Learner support

Employers are encouraged to introduce the learners to context specific modules customized to meet the employer's specific requirements during the period of three months. This may promotes seamless transition from the status of a learner to the status of an employee. Some organisations may disclose the by design they would not have the skills to deal with interpersonal and personal non-technical issues that surrounding students. According to Wolf (2012, 2) citing Wolf (2008) a professional industry placements provides students with an opportunity to gain a glimpse of the real world, whilst still benefiting from the relative safety and support provided by their university. Therefore a course that is designed to equip the facilitator in such competencies would be ideal.

7.3.3 Incentive and time

There should be an incentive for the facilitator during the mentorship. This could be around weekends. After three months periods it is expected that the participant will exit the training sufficiently equipped with knowledge and competencies.

7.3.4 Human resource management for this study

The empirical work in Chapter 4 recommended that the practitioners must have the networking and soft skills such as telephone manners, etc to widen the links between the university and industry to create opportunities for WIL. 81.0 percent of the respondents from DUT indicated that having strong networking skills and understanding what Co-operative Education is about are extremely important human resource needs that are attributed qualities of facilitating learner support. This is shown in **Table 4.3.2**. These attributes can be used to widen the links between the university and industry to create opportunities for WIL. Also, 79.1 percent of the respondents thought that telephone manners are an extremely important trait. The contribution to the overall design of the training is needed, that is, content that is relevant to industry needs.

7.3.5 Capacity need for the facilitators

The following programmes should be developed to strengthen the capacity and as a support for Co-op Practitioners:

- Training programme for administrators
- Training programme for WIL co-ordinators
- Training programme for employers

Since many if not all Co-op Practitioners did not start out in WIL but most have 'fallen' into WIL.

7.3.6 Proposed outline of the model for DUT and the Universities of Technologies

The model for Co-operative Education would include the capacity building of Co-op Practitioners and the employers to support the learners for WIL. These must begin with the current stakeholders who are undertaking the WIL students at their organisation. Furthermore, the performance of research and thereby contribute to the generation of new knowledge (DUT Strategic Plan 2015 – 2019: 2). A rigorous re-evaluation of business processes and support systems, and ensuring that outdated modes of operating are replaced with effective and efficient substitutes, particularly ways of delivering service to our stakeholders - internal and external (DUT Strategic Plan 2015 – 2019: 3). DUT believes that its adoption of the WIL model implementation of the processes thereof, contributes positively towards the employability and hence the marketability of its students when they graduate. **Table 7.1** is an outline based on the findings and conclusions to be used as a model for Universities of Technologies. This would be a source of new knowledge and the penultimate of a doctoral thesis. Furthermore, according to Chapter 1, the delimitations of the study in DUT most respondents are African followed by Indians students. No White students and sparingly Coloured students are participated in this study. However, according to Chapter 6, **Table 6.5.2** the Coloured students female and male employed by organisations for WIL are 2.8% and 5.6% respectively. However, the African students female and male employed by organisations for WIL are 15.5% and 1.4% respectively. Also, it is interesting to note that the white students female and male employed by organisations for WIL are 1.4% and 0.0% respectively.

Table 7.1: Outline based on findings as a model of Universities of Technologies

FINDINGS	RECOMMENDATIONS
Co-op Practitioners and employers needs the following:	
<ul style="list-style-type: none"> • Training to facilitate learner support <ul style="list-style-type: none"> ○ Capacity building for WIL in the institution and workplace ○ Mentoring for WIL in the institution and workplace ○ Identifying projects that support the posing and solution of workplace problems ○ Supportive relationships • Administration <ul style="list-style-type: none"> ○ Guardian to students ○ Learning contracts developed by the student and the supervisor • Workplace approval <ul style="list-style-type: none"> ○ Work that is legitimate and real • Monitoring <ul style="list-style-type: none"> ○ Visitation from the institutions to the workplaces ○ Assessments of reports ○ Industry tours to view recent technology • Collaboration <ul style="list-style-type: none"> ○ Between employers and the institutions in order to design a model that can address learner support. 	<ul style="list-style-type: none"> • Duties for Co-op Practitioners <ul style="list-style-type: none"> ○ Manage a project ○ Manage a relationship between the students and the employers ○ Actively support employers in problem solving difficult situations ○ Prepare organizations for students from diverse backgrounds ○ Prepare organizations for students by providing relevant information about academic policies and procedures ○ Help resolve difficulties between students and practitioners in the workplace • Skills training <ul style="list-style-type: none"> ○ Needs to be developed in order to address the shortcomings and challenges in learner

<ul style="list-style-type: none"> ○ Between the students, institutions and workplaces ○ commitment alone may not guarantee that the emotional support, practical support and political support is in fact readily available • Capacity need for the facilitators <ul style="list-style-type: none"> ○ Training programme for administrators ○ Training programme for WIL co-ordinators ○ Training programme for employers 	<p>support facilitation</p> <ul style="list-style-type: none"> ○ Steps of development is 4-fold: (a) programme initiation, (b) implementation, (c) embedding, and (d) continuous improvement • This training would also be used as a model that is replicated and adapted by other institutions of higher learning • The training can be offered in the form of short courses for beginners
Negative effect for Co-op Practitioners and employers	
<ul style="list-style-type: none"> • Lack of training <ul style="list-style-type: none"> ○ Co-op Practitioners, be it university staff or industrial supervisors, are not formally trained to facilitate learner support ○ The resistance from academic staff to facilitate support for learners that undertook WIL 	<ul style="list-style-type: none"> • The quality of the supervision, both industrial and academic, is instrumental in maximising the value of the learning experience • The opportunity for their staff to practice their mentoring skills
WIL students and graduates needs the following:	
<ul style="list-style-type: none"> • Learner support <ul style="list-style-type: none"> ○ Orientation ○ Guidance 	<ul style="list-style-type: none"> • Duties for Co-op Practitioners for WIL student and graduates <ul style="list-style-type: none"> ○ Guide and support

<ul style="list-style-type: none"> ○ Counselling ○ Coaching ○ Industry excursions ● Learner responsibility <ul style="list-style-type: none"> ○ Challenging tasks for which the student can take responsibility ○ Independent learning ○ Students must add value ○ Value of students bringing fresh ideas to their work practices ● Behavioural competencies <ul style="list-style-type: none"> ○ Social skills ○ Communicate effectively in an interpersonal work environment ○ Positive impact during WIL ● Work preparedness <ul style="list-style-type: none"> ○ Bearing credit towards the modules 	<p>students in understanding ethical behaviour</p> <ul style="list-style-type: none"> ○ Provide guidelines for orientation programmes for students ○ Prepare the students for organizations from diverse backgrounds ○ Provide on-going support for any difficulties that may have arisen in the course of the placement or as a result of student learning ○ Assist students to deal with tensions, difficulties, and health issues ○ Provide counselling for students as and when appropriate ○ Act as a frequent discussant, listening, responding, probing and encouraging the student ○ encourage reflection by the systematic debriefing of important activities; ○ provide regular, sympathetic and positive feedback on all aspects of the student's
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	<p>performance.</p> <ul style="list-style-type: none"> ○ Arranging the industry tours ○ Formalize work preparedness to be credit bearing
Negative effect for WIL students and graduates	
<ul style="list-style-type: none"> • Lack of learner support <ul style="list-style-type: none"> ○ Student's failure ○ Student support at undergraduate level should be taken seriously ○ Students must not be spoon fed ○ Finding placements for academically and/or practically challenged students ○ Length of time taken to source a placement 	<ul style="list-style-type: none"> • Students support a vital and strategic activity of all universities. • Industry supervisors expect unrealistic outcomes from the student, equally, the opposite can occur where a student is not sufficiently challenged
Placing the students in the workplace	
<p>There are three general models to place the students in the workplaces:</p> <ul style="list-style-type: none"> • the academic institution finds the placements and matches them with students, • the academic institution provides information about placements notified to them and students apply and • self-placement where students find their own placements and the academic institution will have to do a workplace approval based on their criteria. 	
<p>All the UoTs believe that the adoption of the WIL model implementation of the processes thereof, contributes positively towards the employability and hence the marketability of the students when they graduate.</p>	

7.4 Future work

The recruitment of academic staff at universities of technology does not consider where the candidates studied. This may help in minimising the challenges with regards to the eagerness of academic staff to take part in facilitating support for WIL students. In the opinion of the researcher, those academics who studied at the UoT would have seen the importance and benefits of WIL. Therefore, it would be easy for them to be in as opposed to the academics that studied in traditional universities where WIL is not part of the academic programmes. In view of the above, the following investigation should be undertaken as future work:

- An investigation on the willingness of the academic staff to take part in the facilitation of learner support must be conducted to find out whether it is academics who were trained at Universities of Technology versus academics who trained at traditional universities who resist on this engagement.
- An impact on assessment of work-based programme should be investigated.
- According to the CHE (2004: 24) document on Criteria for Programme Accreditation Criterion 19 : 'User surveys, reviews and impact studies on the effectiveness are undertaken at regular intervals. Results are used to improve the programme's design, delivery and resourcing, and for staff development and student support where necessary'.

7.5 Issues that threaten the effective implementation of WIL

- Workload for Co-op practitioners and University Mentors. The Co-op practitioners and University Mentors had to lecture the large groups the students with their practical sessions. The severe resource limitations, human, financial, infrastructure, time to visit and monitor the progress of WIL students.

- The specified learning outcomes must deepen the understanding of students progressively – whether the outcome is achieved in the classroom or the workplace.
- Lack of acceptance of WIL as a legitimate learning strategy for universities. This would promote Co-operative Education and WIL for applied learning and discourage the resistance within the institution.

The students are more likely to feel they have been treated with respect, propriety and honesty – the defining features of interpersonal justice (Keele, Moss, Sturre, and Von Treuer, 2012: 69).

7.6 Towards policy implementation for National Development Plan and Medium Term Strategic Framework

According to Chapter 1, the researcher collected information from government documents as well as new reports outlining the commitments that were made by government in the media that are used and linked to this study. Furthermore, Chapter 2 has the summary of a policy framework for WIL in South Africa. The framework will therefore deal with substantive issues and will leave the nuanced implementation procedures to implementing institutions. While many institutions already have policies in respect of WIL or related practices, it is hoped that institutions will align their institutional policies to an agreed National Development Plan. Also the finding of the following:

- For students – WIL greatly enhances learning including the retention of learning. **Figure 6.2.5** indicates the person who impacts on student's learning whilst on WIL. Most students (43.6%) identified the Industrial Supervisor as being the most influential.
- For institutions – WIL enhances the reputation of the institutions responsiveness to industry needs arise from close linkages and partnerships

between institutions and employers. In Chapter 5, a senior lecturer / WIL Co-ordinator from the Biotechnology as well as the WIL Co-ordinator from the Food Technology programme at DUT emphasized the importance of the training to capacitate everyone who is appointed to facilitate learner support for WIL. They had to start developing relationships and finding placements without any previous dealings with industry. Keating (2012: 93) Nicolaides (2006) believes that industry needs to play a greater role in encouraging WIL experience for students as this provides an ideal opportunity for academics and employers to build long-term relationships and a greater potential for working together to meet industry needs and want.

- For employers – WIL is essential in improving the skills base of the country to the benefit of education, training, commerce and industry. According to **Table 6.5.4**, the role of Industry supervisors versus the learner support, industry participants indicated that they play a role of being a counsellor during the time that they host WIL students in their organisations. Also, it is shown in **Table 6.5.4** that 27.5% play this role to a large extent, 17.5 percent play this role to a very large extent and 10.0 percent play the role of being a counsellor to student to an extremely large extent.

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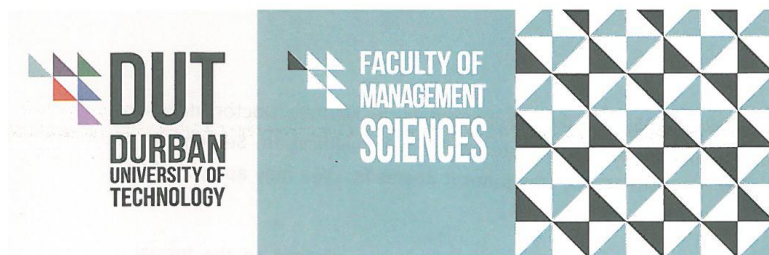
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APPENDICES

APPENDIX A.1

GATE KEEPERS LETTER



22 October 2015

Reference: Proposal Approval: T Msukwini, Student number 19850595

Dear Mr Msukwini

DOCTORATE DEGREE OF TECHNOLOGY: HUMAN RESOURCES MANAGEMENT

This serves to confirm the approval of your research proposal by the Faculty Research Committee, at its meeting on 20 September 2011, as follows:

1. Research proposal and provisional dissertation title:

AN INVESTIGATION INTO THE HUMAN RESOURCES CAPACITY NEEDS TO FACILITATE LEARNER SUPPORT OF WIL AT A UoT: A CASE STUDY OF DURBAN UNIVERSITY OF TECHNOLOGY

Promoter: Dr S Pillay

Co-promoter: Mr BE Forbes

Please note that any proposed changes in the dissertation title require the approval of your supervisor/s, the Faculty Research Committee, as well as ratification thereof by the Higher Degrees Committee.

2. Research budget to the amount of **R15 000.00**

Please note that this funding is not a scholarship or bursary and is therefore not paid directly to you, but is controlled by your supervisor. Any proposed changes to use of this funding allocation require the approval of your supervisor and the Faculty Research Committee.

The Institutional Research Committee has stipulated that:

- (a) This University retains the ownership of any Intellectual Property (patent, design, etc.) registered in respect of the results of your Masters/Doctors Degree in Technology studies as a result of the award and the provisions of the above Act;
- (b) Should you find any of the terms above not acceptable then you are given the option to decline the Research budget award to your project in writing.

May we remind you that in terms of Rule G25(2)(b), if you fail to obtain the Masters/Doctors degree within the maximum time period allowed after first registering for the qualification, Senate may refuse to renew your registration or may impose any conditions it deems fit. You may apply to the Faculty Research Committee for an extension.

Please note that you are required to convert your registration from the informal to the formal course and re-register each year.

Should you experience any problems relating to your research, your supervisor must be informed of the matter as soon as possible. If the difficulties persist, you should then approach your Head of Department and thereafter the Executive Dean of the Faculty.

Please refer to the 2014 General Rule Book concerning the rules relating to postgraduate studies, which include *inter alia* acceptable minimum and maximum timeframes, submission of thesis/dissertations, etc. You are also advised to read the Postgraduate Students' Guide which is available on the DUT website.

Please do not hesitate to contact this office for any assistance. We wish you success in your studies.

Kind regards



Prof R Balkaran

FRC Chairperson: Faculty of Management Sciences

Cc Promoter: Dr S Pillay

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Dr Saths Govender

10 NOVEMBER 2015

TO WHOM IT MAY CONCERN

LANGUAGE CLEARANCE CERTIFICATE

This serves to inform that I have read the final version of the thesis titled:

‘An Investigation into the Human Resource Capacity needs to facilitate learner support of Work Integrated Learning (WIL). A case study of the Durban University of Technology (DUT)’ by Themba Msukwini.

To the best of my knowledge, all the proposed amendments have been effected and the work is free of spelling and grammatical errors. I am of the view that the quality of language used meets generally accepted academic standards.

Yours faithfully



DR S. GOVENDER
B Paed. (Arts), B.A. (Hons), B Ed.
Cambridge Certificate for English Medium Teachers
MPA, D Admin.

APPENDIX A.3



COVERING LETTER TO THE RESPONDENTS

Dear Respondent/Participant

This questionnaire or interview is in support of an investigation that is being undertaken for the purpose of completing doctoral studies. The purpose of this study is to improve human resource capacity to facilitate learner support in Work Integrated Learning. The information received will be used to provide guidelines towards the development of such qualities. Please tick in the appropriate block and enter your response in spaces provided on the attached questionnaire to the best of your ability.

Please note that you are being assured that any information that you provide will be treated with strict confidentiality. If possible we will collect it, or alternatively, you may be asked to send it back either by e-mail or posted to the return address that is provided below.

Thanking you in advance for your co-operation.

Yours sincerely

Themba Msukwini

Durban University of Technology

Co-operative Education Unit

Tel: 031 - 373 2307

Cellphone: 083 307 1741

e-mail: msukwini@dut.ac.za

Return address: P.O. Box 70896; Overport; 4067.

APPENDIX B

CONSENT FORM

Title of Project: *An investigation into the Human Resource Capacity needs to facilitate learner support of Work Integrated Learning (WIL). A case study of the Durban University of Technology (DUT).*

Name of researcher: Themba Msukwini

Please initial

1. I confirm that I have read and understood the information on the covering letter for the above study. I had an opportunity to consider, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without any consequences for me.

3. I have been informed that the interview will be audio recorded and I give my consent for this recording to be made.

4. I understand that all information I provide will be treated as confidential and will be anonymised. Also, I agree that this information can be used in publications arising from this study.

5. I agree to take part in the above study.

Name of Participant

Signature

Date

QUESTIONNAIRE FOR WIL STUDENTS THAT ARE CURRENTLY PLACED.**SECTION 1: PERSONAL DETAILS OF THE RESPONDENT**

1. Mark the appropriate block:

Gender:

Male

☐

Female

☐

- 2.

State the diploma that you are registered for																			
Age	18 - 24		25 – 30		31 – 35		36 – 40		41 – 45										

3. Before enrolling at DUT were you (specify by marking the appropriate block)?

At school	AS	
Employed	E	
Unemployed	UN	
Self employed	SE	
At another institution	AI	
Other	O	

4. How did you find your placement to undertake WIL? Mark the appropriate block.

Via DUT Co-op Unit

☐

Self Application

☐

5. How long did it take to get a placement after you were eligible to undertake WIL?

Mark the appropriate block.

0 – 1 Month

☐

1 – 3 Months

☐

3 – 6 Months

☐

6 – 12 Months

☐

over a year

☐

SECTION 2 – SPECIFIC TO THE INVESTIGATION**WILSTUDQ1**

Mark the appropriate block on Questions 1 to 4.

1. How would you rate the support from the university mentor that you are receiving since you started WIL.

Very poor ☐ Poor ☐ Satisfactory ☐

Very good ☐ Excellent ☐

2. How would you rate the support from the industrial supervisor that you are receiving since you started WIL.

Very poor ☐ Poor ☐ Satisfactory ☐

Very good ☐ Excellent ☐

3. How would you rate the support of your mentor/supervisor towards your personal growth?

Very poor ☐ Poor ☐ Satisfactory ☐

Very good ☐ Excellent ☐

4. How often did the university mentor visit you during WIL in industry?

Once a semester ☐ Twice a semester ☐

More than twice a semester ☐ None ☐

SECTION 2 – SPECIFIC TO THE INVESTIGATION(continued)**WILSTUDQ1**

5. When do you think learner support should take place?

	Year 1	Year 2	Year 3
Term 1			
Term 2			
Term 3			
Term 4			

6. What kind of support do you need with regards to WIL?

.....

.....

.....

7. If there is a person who impacts on your learning by supporting you during WIL. Who would it be? Mark the appropriate block.

WIL Co-ordinator	<input type="checkbox"/>	Industrial Supervisor	<input type="checkbox"/>
University Mentor	<input type="checkbox"/>	Fellow WIL Students	<input type="checkbox"/>
Co-worker	<input type="checkbox"/>	None of the above	<input type="checkbox"/>

8. What kind of characteristics or qualities must the following people have in order to facilitate support for learners?

8.1 industrial supervisor

.....

.....

.....

8.2 university mentor

.....

.....

.....

QUESTIONNAIRE FOR GRADUATES**SECTION 1: PERSONAL DETAILS OF THE RESPONDENT**

1. Mark the appropriate block:

Gender:

Male

☐

Female

☐

- 2.

State the diploma that you graduated for										
Age	18 - 24		25 – 30		31 – 35		36 – 40		41 – 45	

3. When did you graduate? : Year

4. State your current occupation (specify by marking the appropriate block)?

Employed (relevant to qualification)	ER	
Employed (not relevant to qualification)	ENR	
If employed, state for how long?	SHL	
Self employed/entrepreneurship	SE	
At another institution	AI	
Unemployed	U	

5. How did you find your current employment? Mark the appropriate block.

Via DUT Co-op Unit

☐

Self Application

☐

6. How long did it take to find employment after you graduated?

Mark the appropriate block.

0 – 1 Month

☐

1 – 3 Months

☐

3 – 6 Months

☐

6 – 12 Months

☐

over a year

☐

still searching

☐

SECTION 2 – SPECIFIC TO THE INVESTIGATION**WILGRADQ2**

Mark the appropriate block on Questions 1 to 4.

1. How would you rate the support from the university mentor that you received throughout the WIL period.

Very poor ☐ Poor ☐ Satisfactory ☐

Very good ☐ Excellent ☐

2. How would you rate the support from the industrial supervisor that you received throughout the WIL period.

Very poor ☐ Poor ☐ Satisfactory ☐

Very good ☐ Excellent ☐

3. How often did the university mentor visit you during WIL in industry?

Once a semester ☐ Twice a semester ☐

More than twice a semester ☐ None ☐

4. How would you rate the learner support contribution towards your personal growth?

Very poor ☐ Poor ☐ Satisfactory ☐

Very good ☐ Excellent ☐

SECTION 2 – SPECIFIC TO THE INVESTIGATION(continued) WILGRADQ2

5. When do you think learner support should take place? Mark an appropriate block and state reasons.

	Year 1	Year 2	Year 3
Term 1			
Term 2			
Term 3			
Term 4			

Comment:

.....
.....

6. If there was a person who impacted on your learning during WIL. Who would it be? Mark the appropriate block.

WIL Co-ordinator	<input type="checkbox"/>	Industrial Supervisor	<input type="checkbox"/>
University Mentor	<input type="checkbox"/>	Fellow WIL Students	<input type="checkbox"/>
Co-worker	<input type="checkbox"/>	None of the above	<input type="checkbox"/>

7. What kind of characteristics or qualities should the following people have in order to facilitate support for learners?

7.1 industrial supervisor

.....
.....

7.2 university mentor

.....
.....

8. What workplace skills and techniques were learned during WIL?

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

SECTION 1: PERSONAL DETAILS OF THE RESPONDENT

- Yes ☐ No ☐

8. If the response is yes for Question 7 above, please elaborate on the training that you received.

.....

.....

9. If the response is no for Question 7 above, do you think you need training this type of training? Why?

.....

.....

10. Have you conducted any follow up to locate your graduates? Mark the appropriate block:

Yes ☐ No ☐

11. What does your department require from the institution with regards to the facilitation on learner support? Mark the appropriate block.

finance ☐ reduced workload ☐ capacity building ☐

full-time WIL co-ordinator ☐ none of the above ☐

12. Learner facilitation demands the following skills/traits: Mark the appropriate block.

	Extremely important	Important	Not sure	Least important	Not important
Telephone manners					
Go getter					
Social skills					
Extrovert					
Sensitivity					
Communication skills					

SECTION 2 – SPECIFIC TO THE INVESTIGATION(continued)**COOPRAQ3**

13. To what extent have you played the following role of with regards to learner support for WIL? Please mark the appropriate box:

	None	Moderate	Large	Very large	Extremely large
PR officer					
Marketer					
Counsellor					
Leader					
Customer advisor and supporter					
Negotiator					
Relationship builder and manager					
Administrator					
Develop WIL polices					
Monitor WIL implementation					
Maintain WIL databases					

14. How important is the following with regards to learner support for WIL? Mark the appropriate block in terms of importance.

	Extremely important	Important	Not sure	Least important	Not important
Formalize the work preparedness programme to bear a credit					
Increasing the duration of WIL					
Regular visits by mentors from the university					
Educational qualifications of the industrial supervisor					
Experience of the industrial supervisor					
Training to facilitate WIL					

SECTION 2 – SPECIFIC TO THE INVESTIGATION(continued) **COOPRAQ3**

15. The following qualities, skills and attributes that are needed in order to facilitate learner support. Rate with respect to importance.

	Extremely important	Important	Not sure	Least important	Not important
To be persuasive					
To be aware of the economics and business realities					
To be aware of the politics of the country					
To have efficient conflict management skills					
To be passionate about WIL					
To understand the policies of the university					
To understand the widespread of industries					
To understand the National Skills Development Strategy					
To understand what Co-operative Education entails					
To have strong networking skills					
To have good presentational skills					
To have strong public management skills					
To have strong business management skills					
To be able to handle rejection					
To have good social skills					
To be sensitive					
Ability to summarise key issues					
To be approachable					

THE END – THANK YOU

**INTERVIEW QUESTIONNAIRE FOR CO-OPERATIVE EDUCATION
PRACTITIONERS**

SECTION 1: PERSONAL DETAILS OF THE RESPONDENT

1. Mark the appropriate block:

2. Gender: Male ☐ Female ☐

3. Please state your field of expertise.

.....
.....

4. Have you worked for any other UoT in the past, except DUT? If yes, please specify.

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

5. Have you worked for an industry that is relevant to your field of expertise? If yes, please specify.

.....
.....

6. How long have you been involved in the WIL mentorship programme? Mark the appropriate block:

0 – 1 year ☐ 1 – 2 years ☐ 2 – 5 years ☐

5 – 10 years ☐ over 10 years ☐

SECTION 2 – SPECIFIC TO THE INVESTIGATION

The purpose of this interview is to gather qualitative information on the perception of participant about learner support facilitation. Interview scheduled for 30 minutes.

7. How often are the WIL students monitored during their training?

.....

.....

.....

8. How often are students assessed during WIL?

.....

.....

.....

9. What is the purpose of monitoring and assessment?

.....

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10. How does your lecture load compare with that of your colleagues as a WIL mentor or co-ordinator?

.....

.....

.....

11. In your opinion, what are the common needs of students with regards to their support during WIL?

.....

.....

.....

.....

.....

12. State an isolated case of learner support that you got involved in?

.....

.....

.....

.....

.....

13. Are you able to balance your academic duties with WIL responsibilities?

Yes

☐

No

☐

14. If no in Question 14 above, please explain.

.....

.....

.....

15. Do you receive sufficient support from your department to facilitate WIL?

.....

.....

.....

16. Have you been trained to facilitate support learners who are undertaking WIL?

.....

.....

.....

17. In your opinion, is the training to facilitate the support of WIL important?

Yes

☐

No

☐

18. Please elaborate on your answer in Question 19.

.....

.....

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.....

THE END - THANK YOU

QUESTIONNAIRE FOR INDUSTRIAL SUPERVISORS / EMPLOYERS**SECTION 1: PERSONAL DETAILS OF THE RESPONDENT**

1. Mark the appropriate block:

Gender:

Male

☐

Female

☐

2. Please classify your organisation in terms of industry group/ employment sector.

.....
.....

3. Please state your field of expertise and current position.

.....
.....

4. How long have you been in the current position? Mark the appropriate block:

0 – 1 year

☐

1 – 2 years

☐

2 – 5 years

☐

5 – 10 years

☐

over 10 years

☐

5. Have you been employed in any other industry in the past? Please specify.

.....
.....

6. How long have you been an industrial supervisor or involved in the training of students for WIL? Mark the appropriate block.

0 – 1 year

☐

1 – 2 years

☐

2 – 5 years

☐

5 – 10 years

☐

over 10 years

☐

7. Is the Work Integrated Learning (WIL) programme responding to the needs of your industry? Please ✓ on the appropriate block.

strongly agree ☐ agree ☐ not sure ☐

disagree ☐ strongly disagree ☐

8. Which students are in demand in terms of the following:-

Gender?

Race?

9. How many WIL students do you receive in a year?

Please ✓ on the appropriate block on the questions below.

10. In your opinion. Does the WIL programme contribute positively towards the employability of the student?

strongly agree ☐ agree ☐ not sure ☐

disagree ☐ strongly disagree ☐

11. In your opinion, are the learners properly supported during to do WIL?

strongly agree ☐ agree ☐ not sure ☐

disagree ☐ strongly disagree ☐

SECTION 2 – SPECIFIC TO THE INVESTIGATION(continued)**INDSUPQ4**

12. Would a lack of support to learner contribute to their failure?

strongly agree

☐

agree

☐

not sure

☐

disagree

☐

strongly disagree

☐

13. How do you deal with the difference of the student's ability in terms of performance at the workplace?

pay more attention

☐

assign more duties

☐

not sure

☐

ignore

☐

expel

☐

14. Does a co-operation exist between the university and your company?

strongly agree

☐

agree

☐

not sure

☐

disagree

☐

strongly disagree

☐

15. To what extent have you played the following role of with regards to learner support for WIL? Please mark the appropriate box:

	None	Moderate	Large	Very large	Extremely large
PR officer					
Marketer					
Counsellor					
Leader					
Customer advisor and supporter					
Negotiator					
Relationship manager					
Administrator					

16. How important is the following with regards to learner support for WIL? Mark the appropriate block in terms of importance.

	Extremely important	Important	Not sure	Least important	Not important
Formalize the work preparedness programme to bear a credit					
Increasing the duration of WIL					
Regular visits by mentors from the university					
Educational qualifications of the industrial supervisor					
Experience of the industrial supervisor					
Training to facilitate WIL					

17. Upon graduation, do you find a well supported learner better suited for the need of your industry?

strongly agree ☐ agree ☐ not sure ☐

disagree ☐ strongly disagree ☐

18. Please comment on the work readiness of WIL student immediately after the placement by ticking on the appropriate block.

excellent ☐ good ☐ satisfactory ☐

not sure ☐ poor ☐

19. The following qualities, skills and attributes that are needed in order to facilitate learner support. Rate with respect to importance.

	Extremely important	Important	Not sure	Least important	Not important
Ability to apply knowledge to new situations					
To recognize a problem situation					
Ability to choose appropriate information to address problems					
Ability to plan and execute tasks independently					
Ability to monitor and evaluate own work-related actions					
Ability to devise ways to improve own actions					
Understanding of changing workplace practices					
Ability to deal with different practices					
Attitude to the work situation					
Desire to learn and continue learning					

20. Are there any areas of WIL that need to be improved in order to make the learner support facilitation easy. Please elaborate.

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THE END – THANK YOU

INTERVIEW QUESTIONS FOR INDUSTRIAL SUPERVISORS / EMPLOYERS**SECTION 1: PERSONAL DETAILS OF THE RESPONDENT**

1. Mark the appropriate block:

Gender:

Male

☐

Female

☐

2. Please classify your organisation in terms of industry group or sector.

.....
.....

3. Please state your field of expertise and current position.

.....
.....

4. How long have you been in the current position? Mark the appropriate block:

0 – 1 year

☐

1 – 2 years

☐

2 – 5 years

☐

5 – 10 years

☐

over 10 years

☐

5. Have you been employed in any other industry in the past? Please specify.

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

6. How long have you been an industrial supervisor or involved in the training of students for WIL? Mark the appropriate block.

0 – 1 year

☐

1 – 2 years

☐

2 – 5 years

☐

5 – 10 years

☐

over 10 years

☐

SECTION 2 – SPECIFIC TO THE INVESTIGATION

The purpose of this interview is to gather qualitative information on the perception for learner support facilitation. Interview scheduled for 30 minutes.

7. Is the support that is currently given to learner who are undertaking WIL sufficient? Please elaborate.

.....

.....

.....

.....

8. Have you received any kind of training to facilitate support for WIL students?

.....

.....

.....

.....

9. If the response is yes for Question 8 above, please elaborate on the training that you received.

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.....

.....

10. If the response is no for Question 8 above, do you think you need training in this type of training? Why?

.....

.....

.....

.....

.....

11. In your opinion, what are the common needs of students with regards to learner support?

.....

.....

.....

.....

.....

12. State an isolated case of learner support that you got involved in?

.....

.....

.....

.....

13. What are the skills that are needed to facilitate the support for learners.

.....

.....

.....

.....

14. Do WIL students display the necessary 'know how' to meet workplace expectations after completion?

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THE END – THANK YOU

**OPEN-ENDED QUESTIONNAIRE FOR CO-OPERATIVE EDUCATION
PRACTITIONERS**

SECTION 1: PERSONAL DETAILS OF THE RESPONDENT

Please mark the appropriate block:

1. Gender: Male ☐ Female ☐
2. Please state your field of expertise.
.....
.....
3. Have you worked for any other UoT in the past, except DUT? If yes, please specify.
.....
.....
.....
4. Have you worked for an industry that is relevant to your field of expertise? If yes, please specify.
.....
.....
5. How long have you been involved in the WIL mentorship programme? Mark the appropriate block:
- | | | | | | |
|------------|--------------------------|--------------|--------------------------|---------------|--------------------------|
| 0 – 1 year | <input type="checkbox"/> | 1 – 2 years | <input type="checkbox"/> | 2 – 5 years | <input type="checkbox"/> |
| | | 5 – 10 years | <input type="checkbox"/> | over 10 years | <input type="checkbox"/> |

SECTION 2 – SPECIFIC TO THE INVESTIGATION

6. Have you been trained to facilitate the support of the learners who are undertaking WIL? Mark the appropriate:

Yes

☐

No

☐

7. If the response is yes for Question 6 above, please elaborate on the training that you received.

.....

.....

8. If the response is no for Question 6 above, do you think you need training this type of training? Why?

.....

.....

9. Have you conducted any follow up to locate your graduates? Mark the appropriate block:

Yes

☐

No

☐

10. If yes for Question 9 above, what is the outcome in terms of the following:

Unemployment?

Employment?

Further studies

11. What does your department require from the institution with regards to the facilitation on learner support? Mark the appropriate block.

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.....

12. Are you familiar with the WIL policy?

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.....

SECTION 2 – SPECIFIC TO THE INVESTIGATION(continued)

13. Is the WIL policy in line with the needs of your programme?

.....

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14. What changes do you think should be done in order to improve performance on the learner support facilitation?

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THE END – THANK YOU

**OPEN ENDED QUESTIONNAIRE FOR INDUSTRIAL SUPERVISORS /
EMPLOYERS****SECTION 1: PERSONAL DETAILS OF THE RESPONDENT**

13. Please mark the appropriate block:

Gender:

Male

☐

Female

☐

14. Please classify your organisation in terms of industry group/ employment sector.

.....
.....

15. Please state your field of expertise and current position.

.....
.....

16. How long have you been in the current position? Mark the appropriate block:

0 – 1 year

☐

1 – 2 years

☐

2 – 5 years

☐

5 – 10 years

☐

over 10 years

☐

17. Have you been employed in any other industry in the past? Please specify.

.....
.....

18. How long have you been an industrial supervisor or involved in the training of students for WIL? Mark the appropriate block.

0 – 1 year

☐

1 – 2 years

☐

2 – 5 years

☐

5 – 10 years

☐

over 10 years

☐

SECTION 2 – SPECIFIC TO THE INVESTIGATION

19. Is the Work Integrated Learning (WIL) programme responding to the needs of your industry?

.....

.....

.....

.....

.....

20. Which students are a demand in terms of the following:-

Gender?

Race?

21. How many WIL students do you receive in a year?

22. In your opinion, are the learners properly supported during to do WIL?

.....

.....

.....

.....

23. Would a lack of support to learner contribute to their failure? Please elaborate.

.....

.....

.....

24. How do you deal with the difference of the student's ability in terms of performance at the workplace?

.....

.....

.....

.....

25. Upon graduation, do you find a well supported learner better suited for the needs of your industry? Please elaborate.

.....

.....

.....

26. What are your views on the co-operation between the university and your industry?

.....

.....

.....

.....

27. What possible changes would you like to see introduced with regards to learner support?

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THE END – THANK YOU

APPENDIX K

INTERVIEW SCHEDULE FOR CO-OP PRACTITIONERS (DUT)

	DEPARTMENT/PROGRAME	RANK	DATE
1	School of Education	WIL Co-ordinator	5 December 2012
2	Ecotourism	Head of Department / WIL Co-ordinator	5 December 2012
3	Public Management	WIL Co-ordinator	5 December 2012
4	Chemistry	Lecturer / WIL Co- ordinator	7 December 2012
5	Child and Youth Welfare	WIL Co-ordinator	10 December 2012
6	Occupational Health	WIL Co-ordinator	11 December 2012
7	Electronic Engineering	Senior Lecturer / WIL Co-ordinator	6 January 2013
8	Tourism	Lecturer / University Mentor	25 January 2013
9	Chemistry	Lecturer / University Mentor	7 February 2013
10	Translation and Interpretation Practice	Head of Department / WIL Co-ordinator	8 February 2013
11	Public Relations Management	Lecturer / WIL Co- ordinator	6 May 2013
12	Office Management Technology	Lecturer / WIL Co- ordinator	6 May 2013
13	Food Technology	Lecturer / WIL Co- ordinator	10 May 2013
14	Biotechnology	Senior Lecturer / WIL Co-ordinator	10 May 2013
15	Food and Nutrition	HOD / WIL Co- ordinator	13 May 2013

APPENDIX L

INTERVIEW SCHEDULE FOR EMPLOYERS

	COMPANY NAME	RANK	DATE
1	SA Navy	Training Co-ordinator	25 October 2012
2	Dulux/Akzonobel	Human Resource Practitioner	23 November 2012
3	Buckman Laboratories	Human Resource Manager	12 December 2012
4	Metallica	Chemical Engineer	12 December 2012
5	Special Cables	Human Resource Leader	11 February 2013
6	Iqlaas Foods	Operations Manager	22 February 2013
7	Ethekwini Municipality	Training Co-ordinator	04 April 2013
8	Geochem	Project Manager	04 April 2013
9	South African Breweries	Human Resource Practitioner	04 April 2013
10	Geochem	Research and Development Chemist	04 April 2013
11	Anchor Yeast	Human Resource Practitioner	15 April 2013
12	SI Group	Training Co-ordinator	17 April 2013
13	Plascon	Chemical Engineer and training Co-ordinator	19 April 2013
14	Sugar Milling Research Institute	Project Manager	22 April 2013
15	Sugar Milling Research Institute	Head of Engineering	22 April 2013
16	Sugar Milling Research Institute	Laboratory Manager	22 April 2013
17	Chemical Industry Education and Training Authority	Skills Advisor	22 April 2013
18	SudChemie/Clamart	Laboratory Manager	24 April 2013
19	Foskor	Quality Assurer	24 April 2013
20	Foskor	Human Resource Practitioner	24 April 2013

APPENDIX M

List of roles and tasks of Link Tutors

Source: Modified from Brennan and Little (1996) pages 169 to 175.

Role1: Providing support for the host organisation	Role 2: Acting as an assessor
Tasks: 1.1 Briefing for work-based placement personnel. 1.2 Providing appropriate written guidance materials. 1.3 Engaging in clarificatory and developmental discussions face to face with mentors. 1.4 Supporting mentors in a variety of ways. 1.5 Liaising with company personnel at appropriate points pre-, during, and post-placement. 1.6 Operating as a reference point, information provider, adviser, and problem solver for providers. 1.7 Developing and consolidating a partnership ethos. 1.8 Encouraging and facilitating networking activity amongst providers. 1.9 Setting up and supporting joint activities. 1.10 Empathising with understanding the provider's standpoint. 1.11 Negotiating productive change to improve the placement for students, and accommodating the legitimate commercial and industrial values espoused by the provider.	Tasks: 2.1 Undertaking formative assessment activities in the interests of the student and the workplace. 2.2 Designing and implementing formal assessment procedures. 2.3 Briefing students and work-based mentors about the assessment process and related documentation. 2.4 Creating and refining assessment documentation and process models as appropriate, in line with current educational development. 2.5 Collecting and collating placement assessment data. 2.6 Encouraging student independence and refining student approaches to self-assessment and placement management. 2.7 Moderating assessments in terms of validity, reliability and comparability between placements.

APPENDIX M (continued)

<p>Role 3: Working as a negotiator</p> <p>Tasks:</p> <p>3.1 Negotiating the general character of the placement with the placement providers to achieve mutual agreement, satisfaction, and payoffs.</p> <p>3.2 Negotiating the necessary learning, and the experiences through which it will be achieved, with the student and the work-based mentor.</p> <p>3.3 Negotiating and agreeing a learning contract, or a less elaborate set of agreements about placement objectives, with the students.</p> <p>3.4 Negotiating amendments and developments within and beyond the learning contract/initial agreement.</p> <p>3.5 Negotiating and liaising with the work-based mentor during the placement to avert difficulties or solve in-placement problems.</p> <p>3.6 Negotiating with the work-based mentor developments and changes to be made in future placement work, in</p>	<p>Role 4: Operating as an innovator</p> <p>Tasks:</p> <p>4.1 Reviewing the placement model and process on a regular basis to identify necessary refinements and re-orientations.</p> <p>4.2 Identifying and responding to needs evident in the wider community of education and training.</p> <p>4.3 Responding quickly and positively when change is required so as to maintain the match between available resources and the placement process model in order to ensure that the placement remains effective within the bounds of continuing effectiveness.</p> <p>4.4 Identifying and evaluating alternative modes of operation, procedures and documentation and adopting and customising such approaches when appropriate.</p> <p>4.5 Undertaking research activity in relation to placements and disseminating the findings to other link tutors.</p>
<p>Role 5: Working as an effective collaborator and providing support to the university</p> <p>Tasks:</p> <p>5.1 Adopting a co-operative stance with the other placement participants.</p> <p>5.2 Demonstrating a willingness to work collaboratively, consulting, sharing and agreeing a set of common purposes.</p> <p>5.3 Working collaboratively in all the key areas of placement operation including assessment.</p> <p>5.4 Undertaking research and/or publications work relating to placements.</p> <p>5.5 Explaining and justifying to placement personnel the university's contribution to the student's academic, professional and vocational development.</p> <p>5.6 Supporting developments within the university which seem likely to enhance the quality of placement activity.</p> <p>5.7 Acting as an ambassador/salesperson for the university in terms of its values and products.</p>	<p>Role 6: Helping students to prepare for placement</p> <p>Tasks:</p> <p>6.1 Preparing the ground for the student by the effective briefing or other tutors and work-based mentors.</p> <p>6.2 Providing information about all aspects of the placement and the host company.</p> <p>6.3 Clarifying issues relating to learning outcomes, resources, and support.</p> <p>6.4 Negotiating placement objectives and learning outcomes.</p> <p>6.5 Encouraging and arranging pre-placement contacts with providers.</p> <p>6.6 Creating placement study materials when appropriate.</p> <p>6.7 Establishing clear agreements regarding the obligations and entitlements associated with placement work.</p> <p>6.8 Arranging debriefing to the next cohort.</p>

APPENDIX M (continued)

Role 7: Acting as a facilitator, reflective practitioner, and an evaluator	Role 8: Ensuring effective follow-up, advocate
<p>Tasks:</p> <p>7.1 Reinforcing the importance of placement work for personal and professional development.</p> <p>7.2 Operating effective procedures in a flexible and considerate way, pruning and changing them in the light of critical consideration and discussion by participants.</p> <p>7.3 Empathising with and supporting other partners in placement work, offering them reassurance, respecting their convenience, and helping them to control their workload.</p> <p>7.4 Clarifying the placement process when required, and smoothing its practical implementation in the interests of effective experiential learning.</p> <p>7.5 Encouraging students to adopt an active and collaborative stance, allowing them to capitalise on the placement experience, rather than passively accepting the status quo.</p> <p>7.6 Making things happen, helping them to happen, and being supportive when they do happen.</p> <p>7.7 Encouraging students to engage in systematic, disciplined and critical reflection about placement activity and to assess their own level of success and personal development.</p> <p>7.8 Allowing the student sufficient freedom and room for manoeuvre to permit real decision making and independence of action.</p> <p>7.9 Facilitating and encouraging professional dialogue between all the partners involved in placement activity.</p> <p>7.10 Undertaking evaluation activities as part of the quality assurance process.</p> <p>7.11 Undertaking research on selected aspects of placement activity as part of a broader academic role and reflective professional practice.</p>	<p>Tasks:</p> <p>8.1 Encouraging students to reflect critically on their own placement experience and the experiences of other students.</p> <p>8.2 Setting up mechanisms and procedures by which effective follow-up can be assured.</p> <p>8.3 Concentrating students' attention on self analysis, the auditing of strengths and weaknesses, and future development planning.</p> <p>8.4 Arranging situations and events in which placement experience can be communicated and disseminated.</p> <p>8.5 Combining effective follow-up for one cohort of placement students with effective preparation for the next.</p> <p>8.6 Encouraging other academics - whether involved with placements or not – to engage in debate about placement and make more extensive use of placement experience in their teaching in the academic areas of the course.</p> <p>8.7 Representing the interests of students in their relation to other participants in the placement.</p> <p>8.8 Operating as a balanced intermediary in dealing with interpersonal and organisational problems which occur.</p> <p>8.9 Seeking to set up procedures and encourage relationships which will prevent confrontation and unproductive disagreement.</p> <p>8.10 Establishing a trusting relationship with students which permits the student to confide in and expect the mentor to represent their interests and concerns fairly.</p> <p>8.11 Seeking to arbitrate and resolve intractable problems when they occur.</p> <p>8.12 Offering similar services to the workplace mentor if the need arises.</p>

ANNEXURES

ANNEXURE 1

List of Approved Qualifications with Experiential Time

	Minimum times		
	Total	Formal	Experiential
NC: DENTAL ASSISTING	1	0.7	0.3
ND: ANALYTICAL CHEMISTRY	3	2.5	0.5
ND: ARCHITECTURAL TECHNOLOGY	3	2.5	0.5
ND: BIOTECHNOLOGY	3	2	1
ND: BUILDING	3	2.5	0.5
ND: CATERING MANAGEMENT	3	2.5	0.5
ND: CLOTHING MANAGEMENT	3	2.7	0.3
ND: ECOTOURISM MANAGEMENT	3	2.5	0.5
ND: ENGINEERING: CHEMICAL	3	2	1
ND: ENGINEERING: CIVIL	3	2	1
ND: ENGINEERING: COMPUTER SYSTEMS	3	2	1
ND: ENGINEERING: ELECTRICAL	3	2	1
ND: ENGINEERING: INDUSTRIAL	3	2	1
ND: ENGINEERING: MECHANICAL	3	2	1
ND: FOOD TECHNOLOGY	3	2	1
ND: HORTICULTURE	3	2	1
ND: HOSPITALITY MANAGEMENT	3	2.5	0.5
ND: LANDSCAPE TECHNOLOGY	3	2	1
ND: PUBLIC RELATIONS MANAGEMENT	3	2.5	0.5
ND: PULP AND PAPER TECHNOLOGY	3	2	1
ND: SMALL BUSINESS MANAGEMENT	3	2.5	0.5
ND: SURVEYING	3	2	1
ND: TEXTILE TECHNOLOGY	3	2	1
ND: TOWN AND REGIONAL PLANNING	3	2	1
ND: VIDEO TECHNOLOGY	3	2.5	0.5
NHD: MARITIME STUDIES	1	0.6	0.4

CONFERENCE PROGRAM



WVACE
17th WOODBRIDGE
CONFERENCE
ON COOPERATIVE & WORK-INTEGRATED EDUCATION
Historic Challenges. Global Solutions.
JUNE 14-17, 2011 PHILADELPHIA

ANNEXURE 2 (continued)



CONCURRENT SESSION ASSESSMENT

*Please return both copies of the form to the appointed Session Chair.
Thank You!*

Presenter: Themba Msukwini
Concurrent Session Title: An investigation into the campus resources

1) What was your overall impression?

☐Excellent ☐Very Good ☒Good ☐Fair ☐Poor

2) Was the session interesting?

☐Strongly Agree ☒Agree Somewhat ☐Neutral
☐Disagree Somewhat ☐Strongly Disagree

3) Was there an opportunity for discussion and exchange of ideas?

☐Strongly Agree ☒Agree Somewhat ☐Neutral
☐Disagree Somewhat ☐Strongly Disagree

4) Please comment on how you will utilize the insight you gained from this session:

Interesting and important project and topic!
Keep up the good work!

Signature (optional)

ANNEXURE 2 (continued)



CONCURRENT SESSION
ASSESSMENT

*Please return both copies of the form to the appointed Session Chair.
Thank You!*

Presenter: Mr. THOMAS M. S. K. W. N.
Concurrent Session Title: PAPER PRESENTATION

1) What was your overall impression?

☐Excellent ☒Very Good ☐Good ☐Fair ☐Poor

2) Was the session interesting?

☒Strongly Agree ☐Agree Somewhat ☐Neutral
☐Disagree Somewhat ☐Strongly Disagree

3) Was there an opportunity for discussion and exchange of ideas?

☐Strongly Agree ☐Agree Somewhat ☐Neutral
☐Disagree Somewhat ☐Strongly Disagree

4) Please comment on how you will utilize the insight you gained from this session:

GOOD TO KNOW WHAT PERCENTAGES
CHALLENGES ARE IN MANAGING WIL.



Signature (optional)

ANNEXURE 2 (continued)



CONCURRENT SESSION ASSESSMENT

*Please return both copies of the form to the appointed Session Chair.
Thank You!*

PRESENTER: THEMBA MUKWINDI
Presenter: AN INVESTIGATION INTO HUMAN RESOURCE CAPACITY NEED
Concurrent Session Title: TO FACILITATE LEARNER SUPPORT

1) What was your overall impression?

☐ Excellent

☐ Very Good

☒ Good

☐ Fair

☐ Poor

2) Was the session interesting?

☐ Strongly Agree

☒ Agree Somewhat

☐ Neutral

☐ Disagree Somewhat

☐ Strongly Disagree

3) Was there an opportunity for discussion and exchange of ideas?

☒ Strongly Agree

☐ Agree Somewhat

☐ Neutral

☐ Disagree Somewhat

☐ Strongly Disagree

4) Please comment on how you will utilize the insight you gained from this session:

Signature (optional)

ANNEXURE 2 (continued)



CONCURRENT SESSION
ASSESSMENT

*Please return both copies of the form to the appointed Session Chair.
Thank You!*

Presenter: Thend. q
Concurrent Session Title: The Capacity

1) What was your overall impression?

☐Excellent ☒Very Good ☐Good ☐Fair ☐Poor

2) Was the session interesting?

☐Strongly Agree ☒Agree Somewhat ☐Neutral
☐Disagree Somewhat ☐Strongly Disagree

3) Was there an opportunity for discussion and exchange of ideas?

☒Strongly Agree ☐Agree Somewhat ☐Neutral
☐Disagree Somewhat ☐Strongly Disagree

4) Please comment on how you will utilize the insight you gained from this session:

Signature (optional) _____

ANNEXURE 3

Email responses

From: Makelo, Naledi [mailto:Naledi.Makelo@akzonobel.com]
Sent: 13 December 2012 02:59 PM
To: Themba Msukwini
Subject: RE: Survey - Industrial Supervisor/Employer

Hi Themba

Find 3 survey forms filled by Supervisor / Employer

Thanks,

Naledi Makelo
HR Practitioner
Human Resources

T +27 31 904 8066
F +27 31 904 8087
M +27 82 777 1081
E naledi.makelo@akzonobel.com

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ANNEXURE 3 continued

From: Makelo, Naledi [mailto:Naledi.Makelo@akzonobel.com]
Sent: 13 December 2012 02:56 PM
To: Themba Msukwini
Subject: RE: Survey - for students

Hi Themba

Find 6 survey forms filled by students

Thanks,

Naledi Makelo
HR Practitioner
Human Resources

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F +27 31 904 8087
M +27 82 777 1081
E naledi.makelo@akzonobel.com

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ANNEXURE 3 continued

From: Pandarum-Moodley, Preshina
Sent: Wednesday, January 09, 2013 11:14 AM
To: Govender, Lumeshni; Somers, Judica; Sookraj, Rakesh; Govender, Ace
Subject: Students Survey

Hi all

Can you please fill in the above relating to our in services trainees and hand in to me when you are done so I can forward to DUT.

Regards

Preshina Pandarum-Moodley
Training Co-Ordinator

Tel: 031 560 1224
Fax: 031 579 2776
E Fax: 086 685 3117
preshinap@ncpalcohols.com
www.ncpalcohols.com



From: Themba Msukwini [<mailto:msukwini@dut.ac.za>]
Sent: 08 January 2013 10:20 AM
To: cherij@dispatch.co.za; pmccracken@gmail.com; xboqwana@aspenpharma.com; Pandarum-Moodley, Preshina; starcem@mweb.co.za; delen.wright@improchem.co.za; bash.moodliar@perpex.co.za; sheridan.rupert@za.nampak.com; beki.nkala@federalmogul.co.za; chrisma@foskor.co.za; sello.mokhobo@necsa.co.za; chrisf@mintek.co.za; pvanrooi@poineerfoods.co.za; jerasmus@deltaemd.co.za; tnaicker@illovo.co.za; sibusiso.duma@za.abb.com; jbatteson@freeworldauto.co.za; navashnim@hybridautomation.co.za; lungile.shabangu@durban.gov.za; snxumalo@ithala.co.za; jiba@geochem.co.za; ssokhela@saymca.org.za; michellep@wearcheck.co.za; michelle.wolfswinkel@lewisgroup.co.za; Carlos Da Costa; bruce.atherton@siemens.co.za; zubair@kznresins.co.za; Intombela@nmsa.org.za
Subject: Request for you to fill a WIL survey questionnaire

Dear Madam/Sir

The Co-operative Education Unit at DUT has compiled the attached questionnaire in do a report on the impact of WIL and the capacity need of its facilitators. We request you to fill and send it back to us at your convenient time.

Kind regards

Themba Msukwini

Manager: External Engagement | Co-operative Education Unit | Steve Biko Campus |

ANNEXURE 4



Asia-Pacific Journal of Cooperative Education

ISSN 1175-2882
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Manuscript Review Form

Manuscript APJCE M296
Type Research
Title *An investigation into the Human Resource Capacity needs to facilitate learner support of Work Integrated Learning (WIL). A case study of the Durban University of Technology (DUT)*

Reviewer B

Recommendation

(Double click on the grey box below to open a dialogue box, and then change the Default Value from 'not checked' to 'checked')
(Check one box only)

- | | |
|---|---|
| <input type="checkbox"/> Accept, no revision required | <input type="checkbox"/> Reject |
| <input checked="" type="checkbox"/> Accept, with minor revision | <input type="checkbox"/> Return without review |
| <input type="checkbox"/> Accept, with major revision | <input type="checkbox"/> Not relevant to this Journal |
| <input type="checkbox"/> Resubmission and review after major revision | <input type="checkbox"/> Other |

General comments and recommendations

Value of the article is important to take note of by the Coop Ed community.

Relevance to Co-op/WIL and significance of contribution to the literature

- The article is relevant to the discipline of Coop Ed/WIL
- Literature: adequate referencing.

Use of literature (e.g. use of recent and relevant literature throughout manuscript; well informed literature background; use of relevant literature to inform discussion)

Literature has been adequately used and integrated with arguments and research conducted. Some terminology were used incorrectly.

Methodology and findings/results (if research paper) (e.g. appropriate methods and methodological design used, methods clearly explained, appropriate statistics shown)

Methodology, described simplified methodology and instruments used but results support findings and discussions..

Discussion, conclusions, implications (e.g. well discussed and convincingly supported by the findings/facts and literature, theoretical and/or practical implications discussed)

Relates adequately to research-not to elaborative.

ANNEXURE 4 continued

Grammar, formatting, organization, title, figures and tables (e.g. is paper coherently written, use appropriate terminologies, laid out in a coherent and logical fashion, using formal and technical writing style, does the title reflect the paper, are the figures and table necessarily and properly laid out)

NOTE: It is important for the author to have the article language edited before accepted.

Discussions were well executed and in relation to results and conclusions.

Data and graphs were used adequately



Manuscript Review Form

Manuscript APJCE M296
Type Research
Title *An investigation into the Human Resource Capacity needs to facilitate learner support of Work Integrated Learning (WIL). A case study of the Durban University of Technology (DUT)*

Reviewer A

Recommendation

(Double click on the grey box below to open a dialogue box, then change the Default Value from 'not checked' to 'checked')

(Check one box only)

- | | |
|--|---|
| <input type="checkbox"/> Accept, no revision required | <input type="checkbox"/> Reject |
| <input checked="" type="checkbox"/> Accept, with minor revision | <input type="checkbox"/> Return without review |
| <input type="checkbox"/> Accept, with major revision | <input type="checkbox"/> Not relevant to this Journal |
| <input type="checkbox"/> Resubmission and review after major revision | <input type="checkbox"/> Other |

General comments and recommendations

The author/s must give attention to their research design if they wish to add significant value.

Relevance to Co-op/WIL and significance of contribution to the literature

The manuscript is relevant, but significance limited due to the limited scope of the literature synthesis and limited data collected

Use of literature (e.g. use of recent and relevant literature throughout manuscript; well informed literature background; use of relevant literature to inform discussion)

The literature review of this manuscript is rather short.

Dr Koch (CPUT), for example, produced a doctoral thesis on the competencies, which has not even been referenced. This suggests that there might be other literature in the body of knowledge, which has not been considered.

Methodology and findings/results (if research paper) (e.g. appropriate methods and methodological design used, methods clearly explained, appropriate statistics shown)

The description is extremely short. The value of the empirical research, being merely descriptive of a particular 'case', is limited. More consideration should be given to the research design in future. The nature of data limits the value of results.

Discussion, conclusions, implications (e.g. well discussed and convincingly supported by the findings/facts and literature, theoretical and/or practical implications discussed)

The discussion is short, because the data are of limited scope.

Grammar, formatting, organization, title, figures and tables (e.g. is paper coherently written, use appropriate terminologies, laid out in a coherent and logical fashion, using formal and technical writing style, does the title reflect the paper, are the figures and table necessarily and properly laid out)

The manuscript needs technical editing with regard to absence of and/or double spaces. The in text referencing when in brackets ought to have an ampersand (&), while when the surnames are in-text 'and' is written out in full. Figures 2 to 6 need descriptions. The table heading need to be centered and a description added. The table itself is not in accolade to APA criteria.

This image shows a full page of primary-ruled paper. It features multiple sets of horizontal dashed lines spaced evenly down the page, providing a guide for handwriting practice. The lines are black and extend across the entire width of the page. There are no margins, text, or other markings present.

This image shows a full page of primary-ruled paper. It features multiple sets of three horizontal dashed lines, which are commonly used in elementary school writing to guide letter height and placement. The lines are evenly spaced across the entire page, providing a template for handwriting practice. There is no text or other markings on the paper.