Critical Perspectives on Work-Integrated Learning in Higher Education Institutions

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Edited by

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FOREWORD

In 1971 German companies Daimler Benz, Robert Bosch and SEL (Standard Elektrik Lorenz) approached the Baden-Württemberg state government complaining that the gap between university-based theory and requirements of companies regarding especially engineering and business university graduates had become too big. As a result the government started a cooperative state university, which nowadays has become the state's largest university. 79% of those who graduated in 2015 were employed immediately after graduation, 1% were self-employed and another 17% moved on to further study, such as the MBA. Only 1% were unemployed (Baden-Württemberg State Office for Statistics 2017). IBM Germany has been sending students to the Cooperative State University since 1976. Their evaluation after almost 30 years showed that the Coop students make careers faster than their counterparts from traditional universities (IBM Germany, career study 2004). This development of cooperative learning in higher education in Germany might motivate South Africa to continue its successful way of work-integrated learning (WIL). The presented book is a very valuable and indispensable milestone to the further success of WIL in South Africa. It contributes to a better understanding of WIL by answering questions that are beneficial to all stakeholders engaged in WIL.

This book very fittingly uncovers theory and practice and how this is integrated into the curriculum. Dorasamy points out that the intention is to identify the rationale driving the pedagogy of work integrated learning to enhance student learning by combining the knowledge base with the practice base. Vlok uncovers WIL as career focused education, confirming the importance to the objectives which are shared by the three major stakeholders; students, academics and business. While academics and business have dealt with WIL for a long time, it is a new challenge for students annually. Acknowledging this, Rampersad targets the very important students' preparation for and reflection of WIL e. g. personnel and professional attributes, professional ethics, required values and skills – a chapter especially – but of course not only – recommended to students. She further provides a reflection on how university-based knowledge and workplace knowledge interact. Balkaran, details the basic assumptions for

effective assessment practices in work-integrated learning – to ensure that the assessment and by that WIL itself will satisfy the needs of all stakeholders and thereby guarantee its success.   Brink and Wessels uncover the evaluation of the WIL program. They emphasize the high importance of monitoring visits in the workplace and underline the importance of these visits to strengthen the ties between universities and employers as an important foundation of continuous improvement and further placements. Taylor takes a broader look not only on South Africa but also on SADC and BRICS. She not only discusses the opportunities but also the challenges of WIL along with international WIL opportunities. Van Niekerk places the South African way of WIL in the context of international examples and sharpens the view on the most important critical success factors – the benefits students and employers get from WIL; summarized in high quality employability.

Overall the diverse chapters provide not only a superb overview on the philosophy and the different phases of WIL, but also profound guidelines for its hands on use and the future development of WIL – to benefit students, business and universities and with that the prosperity of South Africa and its people.

—Professor Dr. Thomas Dobbelstein

Managing Director Customer Research 42 GmbH. Professor at Baden-Württemberg Cooperative State University, Ravensburg, Germany and Honorary Research Professor at Durban University of Technology

EXECUTIVE SUMMARY

Governments around the world are committed to enhancing student graduateness. Work integrated learning is one of the many programmes which Higher Education Institutions (HEIs) can develop to promote student graduateness. The incorporation of work integrated learning in curriculum design and development can produce reciprocal benefits for students, workplaces, professions and communities. Any curriculum design and development endeavour relating to WIL requires appropriate resources. One such vital resource is the availability of relevant literature, which can be used to support curriculum design and development.

This book is therefore intended to serve as a resource for students engaged in Work Integrated Learning (WIL) or studies on WIL, WIL Coordinators, Work place supervisors and educational developers engaged in work-integrated learning programme development, facilitation and evaluation. The purpose of this book is to enhance the educational quality of work-integrated learning programmes. Numerous phases of work-integrated learning, such as the context and partnerships, will be referenced throughout this book with student learning as the main focus. Each author has engaged in effective WIL practices to address a host of learning modes; National and International perspectives of WIL, legislative and statutory frameworks, challenges during employability, pedagogy in work preparation, the university and workplace nexus, basic assumptions for assessment practices, monitoring and evaluation and finally best practices in WIL, in order to augment student learning and development.

Chapter one is an introductory chapter which identifies the locus of work integrated learning within the higher education landscape. The intention is to identify the rationale driving the pedagogy of work integrated learning to enhance student learning by combining the knowledge base with the practice base in any profession. This chapter provides a perspective of work integrated learning as an international and South African practice.

Chapter two provides an outline of the legislative and statutory framework underpinning work integrated learning within higher education. The analysis is undertaken within the context of the national policy goals and

objectives of higher education in South Africa which aim to contribute to the transformation of the higher education system in a post-apartheid South Africa.

Chapter three focusses on the, value, benefits and challenges of work integrated learning towards employability of graduates. It analyses work-integrated learning and graduate employability and explains how work-integrated learning strengthens the employability of a student further highlighting challenges that students experience during a placements and solutions

Chapter four highlights student preparedness for Work-integrated learning programs and how such programs enable students to develop a range of skills, behaviours and self-awareness to complete their academic studies and help prepare them for a successful career. The chapter further highlights the elements required for the WIL process and amplifies the personal and professional attributes required by the student for his/her transition to the workplace. Finally, this chapter supports the student in understanding organisational culture, professional ethics, workplace communication and the art of reflection.

Chapter five provides a reflection on how university-based knowledge and workplace knowledge interact. It summarises the key features of work integrated learning and creates a discourse on how engagement with university and industry can be fostered and what the two sectors can learn from each other and how they provide support to each other.

Chapter six explores Work-Integrated Learning as a basis for instruction in higher education with specific emphasis on its impact on assessment. This chapter discusses learning practices in higher education. It highlights the challenges faced in work-integrated learning assessment by higher education institutions, students and employers and details the basic assumptions for effective assessment practices in work-integrated learning.

Chapter seven provides an emphasis on the importance of monitoring and evaluation in the work-integrated learning process. Discussion includes data for work-integrated learning programme monitoring and evaluation, including strategies to evaluate the effectiveness of a work- integrated learning programmes for student learning and development. The chapter further highlights how monitoring is essential to ensure quality of learning of the student at the workplace.

Chapter eight focuses on the considerations of work integrated learning of international students and recognition of prior Learning as opportunity areas that should be purposefully considered and attended to so as to ensure that WIL implementation is successful and may proceed as smoothly as possible. The status of the student in the workplace remains a somewhat grey area that needs national clarification. The role of government with its legislative powers is a key role player in facilitating education-industry partnerships. This provides an impetus to better understand partnership arrangements, including their formalisation, for higher education WIL management.

Chapter nine follows the development of higher education and the integration of Work-Integrated Learning to the Higher Education structure. This Chapter assists the reader to understand WIL within the concept of curriculum design and the four WIL curricular modalities.

ACRONYMS

CHE - COUNCIL ON HIGHER EDUCATION
CUT - CENTRAL UNIVERSITY OF TECHNOLOGY
DHET – DEPARTMENT OF HIGHER EDUCATION AND TRAINING
DUT – DURBAN UNIVERSITY OF TECHNOLOGY
ETDP - EDUCATION AND TRAINING DEVELOPMENT
  PRACTITIONERS
HEQC - HIGHER EDUCATION QUALITY COMMITTEE
HEIs - HIGHER EDUCATION INSTITUTIONS
IEASA - INTERNATIONAL EDUCATION ASSOCIATION OF SOUTH
  AFRICA
LRA - LABOUR RELATIONS ACT
NPHE - NATIONAL PLAN FOR HIGHER EDUCATION
NSF - NATIONAL SKILLS FUND
NQF - NATIONAL QUALIFICATIONS FRAMEWORK
PBL – PROJECT BASED LEARNING
PPK - PERSONAL PRACTICAL KNOWLEDGE
POPI - PROTECTION OF PERSONAL INFORMATION
QEP - QUALITY ENHANCEMENT PROJECT
RPL - RECOGNITION OF PRIOR LEARNING
SETAS - SECTORAL EDUCATION AND TRAINING AUTHORITIES
SASCE - SOUTHERN AFRICAN SOCIETY FOR COOPERATIVE
  EDUCATION
SADC - SOUTHERN AFRICAN DEVELOPMENT COMMUNITY
TVET - TECHNICAL AND VOCATIONAL EDUCATION AND
  TRAINING
UOTs - UNIVERSITIES OF TECHNOLOGY
WACE - WORLD ASSOCIATION FOR COOPERATIVE EDUCATION
WIL - WORK-INTEGRATED LEARNING
WPL - WORK PLACE LEARNING

CHAPTER ONE

CONTEXTUALISING WORK INTEGRATED LEARNING

NIRMALA DORASAMY

By the end of the chapter, you should be able to:

- Define and explain the concept of work-integrated learning.
- Appreciate the importance of work-integrated learning.
- Critically analyse the role of work-integrated learning for the development of personal and professional skills.
- Understand the value of work-integrated learning from a stakeholder perspective.

Introduction

In an increasingly competitive higher education environment, the growing accessibility and integration of higher education institutions across the world has necessitated that they take cognisance of teaching and learning practices that respond to market demands for graduates who have had exposure to actual employment environments. The imperative for university recirculation to enhance student preparation for the workforce, improve graduate employability, respond to economic demands and strengthen their competitive advantage in the marketplace is a global issue. This has emerged as a feature of comparative and competitive differences between higher education institutions**.**

In today's work environment, professionals require more than just technical skills. Skills such as decision making, teamwork, communication and conflict resolution are also regarded as prerequisites. However, these skills are not easily acquired in current learning environments. Acquisition of these skills requires a structured approach, communication facilities and training of lecturers and students. Students must be exposed not only to the

discipline specific aspects of learning, but also to a curriculum for life through engagement in activities in different environments. Universities need to provide pathways like work-integrated learning (WIL) within the curriculum. In recognising that the workplace is a unique and valuable learning environment for students, higher education institutions are increasingly emphasising WIL as a teaching and learning approach with the potential to provide a rich, active and contextualized learning experience for students, which contributes to their engagement in learning (McLennan 2008, 2).

Internationally, various terms such as internship, workplace learning, unpaid work placements, practicum, professional practice, industry-based learning, project-based learning, co-operative education, fieldwork education, work-based projects, apprenticeships and co-operative education programs are associated with WIL. Various perspectives and imperatives drive individual universities and disciplines to innovate and adapt in order to meet the specialized needs of their partners and their disciplines. Consequently, these differences underpin the lack of consensus and consistency regarding the wide array of terms and activities used to describe WIL.

However, WIL is generally perceived as an approach in which students undergo conventional academic learning, mostly at higher education institutions (HEIs) and Technical Vocational Educational Training colleges (TVETs), and combine this learning with time spent in a workplace relevant to their area of study**.** Calway and Murphy (2012, 15) add that WIL incorporates educational activities that integrate theoretical learning with its application in the workplace, in a way that the educational activities provide a meaningful experience in the workplace. The educational activities should be intentional, organized and recognized by the institution so that learning outcomes for the student are transferable and applied.

The World Association for Cooperative Education (WACE) considers work integrated learning as reflecting a broader perspective of the nature of WIL which can include work based learning via industry projects, internships, capstone programs and sandwich degrees (Franks and Blomqvist 2004, 285). Work-integrated learning, which has been in formal existence for over 100 years, is based on the educational philosophy that '*all genuine education comes through experience*' (Dewey 1938, 25). The core dimensions of WIL include an integrated curriculum; learning acquired from work experience; the establishment of a support-base; and

the organization and co-ordination of the learning experience. These four dimensions refer to the development of a curriculum which integrates the needs of industry with academic requirements, careful design of the work component to ensure its contribution to the experiential learning process, the cultivation of a loyal supportive industrial base and the establishment of a structure which ensures sound practices of monitoring and evaluating students before during and after the work experience.

Developing Agentic Personal and Professional Skills

The nature of work is changing due to the globalization of markets, advances in information technology and communications, and a greater reliance on knowledge to produce new products and services. Adapting to the changing nature of work requires workers with different skills, the ability to continuously learn new skills and the ability to adapt to changing needs. In this regard, the workplace can be an agent contributing to student self-reflection, self-organization, proactiveness and self-regulation as times change. Higher education has the responsibility to produce socially and economically successful graduates in an attempt to contribute to a better and more sustainable society. To achieve this, curricula, policies and practices need be geared towards moulding and guiding student preparedness and graduate experiences for the complexities of the 21st century.

Since students learn in different ways from different sources, the curriculum must help students to develop transferable skills and elements of work-related learning to enable them to '*stand out from the crowd*' (Liverpool John Moores University, 2011 in Peach and Matthews 2011, 6). Students need the means to recognize and value learning within and outside the formal curriculum in order to assist them in developing a deeper understanding of how and what they are learning at different times in their lives. It can be argued that by scaffolding learning, students can respond positively to current and future real-world challenges and opportunities. Peach and Matthews (2011, 9) refer to the need to develop agentic personal and professional identities in students which are critical to guide them in choosing work options and building resilience and competence to deal with real world complexities. The development of agentic personal and professional identities in students requires them to take an active and intentional role in their self-development and adaptation by employing mastery, independence and purpose in learning.

Harvey, Geall, and Moon (1998,15) see the workplace as a powerful vehicle for developing agentic professional and personal skills, since workplaces as social environments are not just once-off places of learning and knowing. As a learning environment, the workplace helps students to gain a cultural awareness of their discipline in a meaningful context through continuous and reciprocal processes. Therefore, WIL can be more than work placement, as the experiences gained by students extend beyond merely integrating theory and practice (Patrick, Peach, Pocknee, Webb, Fletcher, and Pretto 2008, 69). Transformative learning experiences traverse the boundaries of the university and workplace**.**

Employability is dynamic, with new demands for jobs emerging continuously. If students are being prepared for jobs that do not yet exist using technologies that are yet to be invented to solve problems we are unsure of, then they need skills, knowledge and dispositions that are life-wide. The Organisation for Economic Co-operation and Development (OECD) Report (2010, 50) on the changing world of work argues that the demand for highly skilled knowledge workers requires graduates with higher level skills and qualifications. In this regard, Barnett (2004, 251) contends that the willingness to be amenable to new experiences requires an emotional investment in developing skills and capacities to venture into unknown situations and learn from such experiences. Such agentic engagement requires resilience and the capacity to deal with new and challenging situations for students.

Work-Integrated Learning and Learning

A student may encounter learning from diverse experiences, both formal and informal. Knowledge gained through formal learning in education settings is commonly considered as theories of general validity, while knowledge developed through informal learning that occurs in day-to-day interactions provides the platform to act in specific situations. Formal learning at university is expected to be integrated with skills acquired through informal learning. There must be reciprocity between formal and informal learning in order that learning experiences in education and other contexts can be synthesized.

Learning has to be learner driven since students can choose what to include in their learning portfolio outside the formal academic curriculum. By supporting learning in a holistic way, students could be encouraged to view their lives in a more inclusive manner. The experiences of the student which should be central in the learning process, requires them to analyze

their experiences by reflecting, evaluating and reconstructing them in order to draw meaning from such experiences. Learning should not be dependent on a physical location where information flows in one direction only. Rather, should be driven by the attainment of retention and mastery of skills in authentic situations in which students are legitimate participants (Bennett 2012, 36).

Learning through being, doing, sensing, feeling, knowing and changing provides a powerful connection between the whole student and the whole world learning interface. Meaningful learning embedded in valuable experience can make a significant contribution to all forms of learning. Learning from the experience of working in different environments can create ways of knowing and being able to come to know (Beard and Wilson 2005, 4).

WIL provides the avenue to engage the full continuum of a student's life. A student who has learnt in many different experience-based contexts will realize that knowledge is often strongly situated and contextual. Moreover, research, new technologies and information has not only created the "educational-practice gap" where work-place settings have to adopt and reflect on what is taught in academic institutions, but also the practice-education gap where academic institutions have to keep pace with rapid changes in industry. Students have to be prepared to continuously adapt and change in different environments (Beard and Wilson 2005, 6).

Learning extends beyond merely being an academic cognitive skill that can be developed through carefully designed learning activities. It requires changing ways of knowing knowledge. Knowledge can be transferred between different situations and contexts. Turning points in learning can occur when theoretical knowledge integrates with practical knowledge, when practice is understood based on theory, or when theoretical knowledge needs to be combined with practical knowledge and personal experience. Blending this knowledge from theory, practice and other professional activities can generate new knowledge that is neither theoretical nor practical.

According to Lave and Wenger (1991, 45), when different forms of knowledge are combined, greater knowledge emerges through such synthesis, which is referred to as praxis. Praxis binds skills and knowledge in professional roles, something in-between abstract knowledge (to know) and concrete applications (to do) a synthesis between scientific knowledge and practical knowledge. The development of praxis is dependent on

personal maturity, competence, self-efficacy, personal circumstances, education, training and the organizational factors encountered in the workplace.

If universities are to help change students' ways of knowing based on confidence and effectiveness, then students need to understand and appreciate work practice. It has to be a quality work experience process, whereby students recognize their learning experience through relevance and intentionality (Harvey et al. 1998, 10). According to Raelin (2007, 498), work practice has the following important components:

- Wide use of tacit knowledge–such knowledge is deeply rooted in action and involvement in a specific context at a specific time. People may not be able to explain how they know what to do, but may be knowledgeable about what they do and can do.
- Critical reflection–the ability to make sense of actions and experiences can help create a personal 'real time' learning environment to test and evaluate actions and experiences.
- Mastery–skills in different contexts and the ability to become competent through repeated practice in one environment can help strengthen expertise.

WIL provides opportunities for students to observe themselves and others (in work situations), as well as contemplate what they are doing and the effects of what they are doing more critically. Fostering the students' motivation to be and become extends beyond the dimension of their life that is only associated with an academic curriculum. Since students are the key stakeholders in their learning and higher education provisions, their total experience both campus and off campus influences their judgments of quality and engages them in productive learning.

Students need the behaviours, skills and metacognitive powers to engage in ways that will enable them to act, influence situations, achieve their goals and learn through the experience. It is generally felt that real world experience comes mostly from activities in the workplace. WIL integrates basic content knowledge and theory with practical, real-world work expected from off-campus work placements. Off-campus pedagogies like personal journals, induction and mentoring offer informal approaches to learning as compared to on-campus pedagogies like formal assessments. Soft skills such as respect, ethics, communication, time management and understanding of workplace culture are generally acquired through off-campus learning (Eames and Bell 2005, 170).

Eames and Bell (2005, 166) argue that a socio-cultural view of learning considers learning at university and workplace as different but complementary. Learning in the workplace is facilitated through instruction, participation and scaffolding and other instruments found in the everyday practice of the workplace (Eames and Bell 2005, 166). A prerequisite for this is the development of a structured program that encourages learning as a situated, participatory and socially-mediated activity, focusing on the assessment of learning outcomes consistent with a sociocultural view. Learning as a social process engages students in a community of practice that complements their on-campus learning. By employing a variety of tools like writing or language specific to an educational setting, students learn from different sources and in a variety of ways, thereby contributing to distributed cognition. Furthermore, learning can be facilitated by situated cognition, wherein the situation specific to an industry influences learning (Coll et al. 2009, 30). Distributed and situated cognition can generate what Haigh (2008, 24) refers to as personal practical knowledge (PPK). PPK is knowledge acquired outside formal education contexts. PPK emerges through self-directed personal experiences with learned individuals in the workplace. Therefore, WIL students can use a variety of learning tools to learn from different individuals in the work-place.

According to Weisz and Smith (2005, 609), an imperative for deep-level learning is the conceptualization of what is learnt and being able to apply it in new environments. Students can translate their work experiences into learning outcomes and engage in deep-level learning. Deep-level learning occurs when experiences are integrated into the student's body of knowledge and understanding and connections are made to previous lessons (Ramsden 1992, 60). An imperative is conscious reflection on how procedures are executed; how concepts are formulated and understood; how organizational values impact decision making; and how individual practice is affected by social "rules" (Weisz and Smith 2005, 611).

Furthermore, the learning opportunities provided by employers; the commitment to and ability to learn by students; and the commitment and ability of academics to support this learning are important considerations. Consequently, if workplace supervisors do not understand the learning objectives of WIL and fail to provide meaningful work experiences which offer students relevant challenges, then deep-level can be compromised.

Integrating Learning

Universities are compelled to align their traditional roles with the real and changing needs of the global economy, society and culture. A value-added response to the imperative for practical, real-world education that is pertinent, current and transferable from theory to practice into sustainable impacts is needed to 'push back the frontiers of knowledge' and enhance educational empowerment, economic development and scientific discovery (van Rooijen 2012, 5). Universities must be part of a learning hybrid that engages with knowledge networks through interaction on a continuous basis in order to ensure relevance.

There is consensus that WIL presents a valuable opportunity to build relationships with industry and to establish a more well-rounded and realistic curriculum that makes enrolled students ready for employment (Helyer and Lee 2014, 350). Integration extends beyond the integration of theory with practice. According to Heinemann (1997), it allows students to construct ideas from different sources into an integrated, meaningful whole. Integrated knowledge, which can be applied in unfamiliar situations, is necessary for intellectual consolidation and competence development (McNamara et al. 2012, 3).

Work-integrated learning extends beyond work placement and earning credits. Integration is pivotal to the experience, which requires supporting students in developing skills to reflect on and analyze their real-life experiences as part of a process of ongoing, life-long learning. Students are not only exposed to relevant new knowledge and skills, but are also introduced to new levels of reflection and personal development. Success in professional life and personal life is attributable to knowledge and skills development, as well as personal development. This is critical if individuals are to function at demanding levels in their careers (Van Rooijen 2012, 7). The integration of knowledge and skills gained in HEI, together with the workplace, requires students to take what they have learned on campus into the workplace and incorporate what they learnt in the workplace into academic learning when they return to university, through the development of specific activities. Integration of knowledge must be an explicit learning objective of WIL programs. Aspects like exposure to the profession and development of students' critical skills in self-reflection are important to show students the explicit integration between on-campus learning and how it might apply to the workplace setting, before they go on placement (Coll et al. 2009, 33).
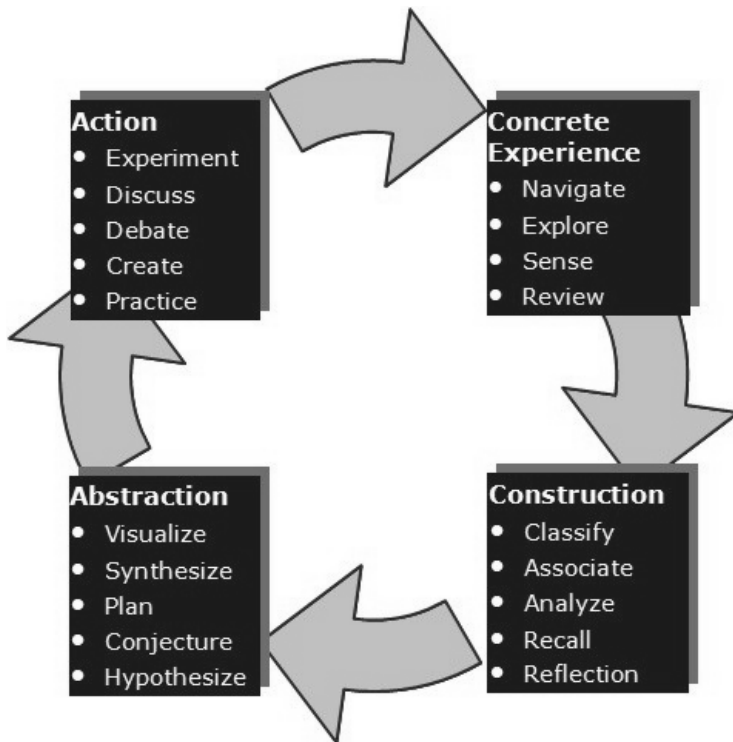
It is imperative that practitioners and employers develop a framework for workplace learning to ensure that it proceeds in the way expected. This is necessary since development requires more than the specialized knowledge and the technical skills of a job. Apart from actual ability (competence), Bandura (1986, 433) believes that success in the workplace depends on the employees' perception of their ability to achieve a specific task or tasks in the work-place (self-efficacy). According to Fletcher (1991, 51), self-efficacy could be achieved via a process of enactive mastery in which students gain confidence as they master tasks through good mentoring and personal evaluation of their capabilities.

Universities are becoming more aware of the imperative to develop not only the critical technical skills of their students, but also their generic skills through WIL. Fredenberg, Brimble, and Cameron (2011, 80) view generic skills as a set of skills that have possible broad applications to various disciplines or circumstances, such as information literacy and communication skills which are necessary for employability. Numerous studies recognize that a strong disciplinary knowledge does not guarantee graduate employment, because employers are demanding graduates with generic skills, otherwise known as soft skills (Crebert, Bates, Bell, Patrick, and Cragnolini 2004; Jackling and De Lange 2009 in Fredenberg et al. 2011, 82). Generic skills do not become dated and can be transferred across various jobs. WIL contributes to the development of transferable generic skills in an active and contextualized learning environment for students who complete work placements. Mentoring and training strengthens their transferable skills and abilities, work ethic and confidence in their jobs.

Integration of existing and new knowledge through an established knowledge transfer path is valuable for all parties in the WIL relationship. Students make meaning by contextualizing content in an authentic learning site. Making meaning, which is part of integrated learning, fosters the transformation and construction of vocationally and socially meaningful knowledge and skills from the learning environment in the workplace. Learning through work-integrated learning depends on the ability of students to reflect on work experiences as legitimate participants, to integrate these experiences with their university lessons and to conceptualize their learning so that they are a ultimately able to consolidate their work and academic experiences to solve problems in unfamiliar environments.

It is common knowledge that learning is enhanced if students are engaged in their learning. Motivated students acknowledge that learning is about real life and that they are stakeholders in their learning. Velarde, Cazares, Alexandrov, and Garcia-Rueda (2014, 1836) developed the following integrated learning process model to illustrate that the learning cycle must be completed in order to achieve real, long-lasting learning.

Figure 1-1 Integrated learning processes

Action
• Experiment
• Discuss
• Debate
• Create
• Practice

Concrete Experience
• Navigate
• Explore
• Sense
• Review

Abstraction
• Visualize
• Synthesize
• Plan
• Conjecture
• Hypothesize

Construction
• Classify
• Associate
• Analyze
• Recall
• Reflection

Source: Adapted from Velarde, Cazares, Alexandrov, and Garcia-Rueda (2014)

Completing the learning process requires students to receive support from academics and employers in order to bridge the gap between university-based theory and their experiences and reflections from WIL. To be able to anchor theory in real experiences, students must be exposed to the situated and complex context of the profession. In this regard, Dimenas (2010, 45) argues that if universities focus only on academia and formal

qualifications, then students are at risk of becoming only academic scholars. This would make them professionally incompetent since they lack the profession-specific knowledge gained through WIL**.** It is necessary to move beyond merely knowing about a profession, to gaining profession-relevant knowledge through experiencing the profession. It is important to acknowledge that what students learn in different situations gives meaning, which can be used in different contexts. Therefore, learning should transcend the dichotomization of theory in university-based education and reality in WIL-based training.

A study by Dimenas (2010, 47) found that students who moved beyond dichotomies and drew conclusions from concrete examples from university-located education and WIL-based training, took a crucial step in their education by taking responsibility for their learning and future profession. Through concretion, application, identification and the assumption of a critical approach, educational quality can be improved. As Dimenas (2010, 48) rightfully argues, just as there is no practice without theory and no theory without practice, similarly there cannot be actions without thought and no thought without consequences of actions. A critically integrated approach to these dichotomies is necessary to facilitate opportunities for students to develop an understanding of the contexts in their future profession.

Coll et al. (2009, 33) mentioned the value of reflection before action, in action and on action as valuable for integration. The three versions of reflection take into account planning what students need to do before action; thinking about what is being done while in the workplace; and finally, contemplating the completed work place experience to identify the knowledge used and gain insight from the experience. This is supported by Harvey, Geall, and Moon (1998, 10) who contend that prior briefing or familiarisation is vital to ensure that all parties know what is expected of them in terms of a shared understanding of purpose and role, so that students are not just "*thrown in at the deep end*" throughout the learning experience. Such reflection alerts them to the culture of the discipline and work, which cannot be effectively conveyed through talk and chalk. In addition, Patrick, Peach, Pocknee, Webb, Fletcher, and Pretto (2008,18) state that by embedding students in authentic and productive activities and social interactions, they work to learn rather than just learning to work.

Reflection fosters both professional and personal development and contributes to the acquisition of higher order cognitive skills like critical thinking, thereby enabling personal transformation (McNamara et al.

2012, 6). This is important considering that WIL aims to develop new knowledge that is mutually beneficial to all stakeholders (Helyer and Lee 2014, 360). Integration helps to achieve reciprocal creating and sharing of knowledge through student placements in industry. As "resourceful change agents" that come from industry placements, students will not only make a valuable contribution to strengthening the industry/university interface, but can also use WIL as a tool to succeed in their professional lives (Heyler and Lee 2014, 361).

Effective Learning Outside of and Beyond Educational Programs and Institutions

HEIs and workplaces afford opportunities for engagement and learning in and across the higher education and workplace environments. If the contributions of both environments are to be successfully integrated for purposes of rich and robust learning. It is imperative to identify the intentions and enactments in both environments. This is necessary if students are to be supported in being effective in their lives outside of and beyond educational programs and institutions. WIL affords students the opportunity to use and build on the contributions from the university and workplace without favouring one setting over the other.

Billet (2012, 38) argues that learning through engagement with educational institutions and workplaces as social settings comprises a duality between the contributions or affordances of these settings and students' engagement with them. Such duality requires understanding and accounting for how individuals engage with what is afforded to them, if educational provisions are to achieve their goals. For effective learning to take place, WIL must consider both educational provisions and experiences in terms of place and setting, as well as the key role of individual active learning processes. Recognition of not only the intended and enacted curriculum, but also active student learning that emerges as students make meaning and construct knowledge from their experiences is required (Billet 2012, 38). The argument is that the setting that affords experiences for students should not be privileged over the contribution of students to their own learning.

The implication is not that university and workplace settings are less important and dispensable in their contribution to effective learning. Rather, such settings must be considered in the context of students who engage with them, as it is during this engagement that they construct their

own knowledge. The influence of personal qualities and histories can contribute to a diverse conception and construction of knowledge, since students personally select and discriminate in how they make sense of what they experience. Therefore, WIL can afford students opportunities to change. However, there is no guarantee that all the affordances will be seized by students for knowledge construction.

Hence, by including WIL one has to consider both the affordances of universities and workplace settings to students to change as well as how students choose to engage and relate to what is afforded to them (Billet 2001, 29). This suggests that settings and personal contributions play a dualistic role in how knowledge is conceived and constructed by students during WIL. It is therefore important to acknowledge that individuals constantly engage in monitoring their experiences and reinforce what they know through subsequent experiences.

These experiences are crucial for understanding how sense is made from experiences which are not always through intended and enacted educational experiences. Continuous thinking and acting occurs through the interaction between what the settings offer and how students construct their version of what these settings afford. This engages students' cognitive experience, leading to diverse ways of making sense of their experiences. In this regard, Goodnow (1990, 264) notes that individuals not only learn but also select what is valuable to learn.

Similarly, workplace settings may invoke different responses from students, depending on their personal histories and what the situations offer them. Therefore, WIL has to take into account the different ways in which students engage in learning. This suggests that participation and accepting the invitation to change is based on their personal histories, as well as on what the settings afford them. In this regard, Table 1-1 illustrates the major factors, that contribute to how students learn through and for work identified by Billet (2001, 32) as:

Table 1-1: Affordances and engagement in work-related learning

Source	*Affordances of the workplace* **The degree to which the workplace affords opportunities to:**	*Students' engagement* **How individuals exercise their intentions, agency and construal's when engaging:**
Everyday activities	**participate in activities from which knowledge required for work performance can be learnt.**	**in activities they can access in the workplace.**
Indirect guidance	**access the social and physical contributions from which the performance for work requirements are accessible.**	**with the social and physical environments of the workplace.**
Direct guidance	**access knowledge that would not be learnt by discovery alone.** **b**	**with more experienced counterparts.**

Source: Adapted from Billet (2001)

The potential of each contribution, as discussed below, is based on the affordances of the workplace and student engagement in those activities, thereby highlighting the relational bases of the contributions.

- Individuals' engagement in goal-directed activities within the workplace.
  Access to work-related knowledge is dependent on how students are invited and supported during engagement in activities. Specific interests, intentions, efforts and needs of students and the workplace are influential in shaping learning.

- Direct guidance they receive from other workers.
  Students may choose to engage with workers who they perceive as experienced. Furthermore, experienced workers must be willing to offer guidance to less experienced students. Even with direct guidance, students will make their own judgements of what is relevant and credible.
- Indirect guidance secured from participating in work and interacting with others and the workplace.
  By observing, listening and participating in different work performances, students can negotiate and construct their experiences based on their understanding.

It can be suggested that students access knowledge in different ways. Students can be agentic in seeking and formulating knowledge from the workplace. Such knowledge may not always be accessible. Which may require seeking such knowledge from experienced workers or from sources beyond the workplace. It may be argued that the interests and intentionality of students is crucial not only for engaging in the task of learning, but also in deciding what is important to learn. The intentionality of students implies that students play a key role in their learning. Their learning, how it is afforded and how they elect to engage with their experiences should be an important consideration of goal-directed activities of universities and their industry partners. Similarly, through WIL, the role of students in educational provisions across settings through an "experienced curriculum" (Billet 2001, 34) needs to be acknowledged. Hence, the need for universities to guide the process of integrating the experiences within educational and workplace settings is an imperative, since they play an important role in supporting applicable and relevant learning from the university to the workplace. If universities are to sustain the pursuit, preservation, application and transmission of knowledge, then they need to focus on educational qualifications and skills development that appropriately prepare students not only for their careers, but also for social and economic progress (Calway and Murphy 2012, 20). This is important since lifelong learning is needed for personal growth and for effective participation in the workplace and society.

Billet (2012, 41-43) suggests the following ways for ensuring effective integration:

- Identify the variety of practice requirements across a range of relevant practice settings to apply knowledge for work practice effectively.

- Create university-based activities for students to share and critique their experiences of the requirements for different workplaces.
- Understand the relationship between different kinds of performance conditions and performance requirements and variations in work requirements.
- Learn about different kinds of work; commodities and differences among them; and consider preferred work options.
- Academic understanding of working life and the ability to facilitate this in the classroom.
- Establish academic capacity to facilitate learning by students, drawing upon their learning rather than merely teaching them.

In essence, the value of the contributions of workplaces and educational institutions to student learning can be elicited through integrating both sets of contributions in ways that meet particular educational purposes, while not neglecting to recognize the mediating role that academics and students play in maximizing the full potential of such integrative efforts. Weisz and Smith (2005, 612) add that often, many supervisors have no understanding of the way students learn in the workplace. With the quality of supervision being one of the strongest determinants of the quality of a WIL program, staff development in key supervision skills like mentoring, conflict resolution and performance evaluation for WIL supervisors is of strategic importance for those universities heavily involved in work-integrated learning. Furthermore, orientation to the "other environment" is crucial. Supervisors from universities and the workplace play a crucial role in integrating university and workplace experiences and in facilitating student learning while on the job. In their absence, work-integrated learning is nothing more than just "work experience". According to Weisz (1995, 5), academic and industry supervisors have the following key roles to fulfil in the WIL process:

Role of the academic supervisor includes:

- Designing the learning experience;
- Preparing the student for the workplace;
- Assisting in setting learning objectives by establishing effective lines of communication between students and the employers (to ensure that feedback is being provided to both parties);
- Assisting students to develop their self-learning skills and strategies;
- Identifying and helping to resolve conflicts;
- Assessing students' workplace performance;