Finding a Work-integrated Learning Strategy that Enhances the Employability of Graduates of South African Universities of Technology: A Research Agenda

Henry Jacobs1 and D.Y. Dzansi2*

Central University of Technology (CUT), Free State, Bloemfontein, South Africa


ABSTRACT A strategy refers to a plan to achieve a major goal. An important goal of South Africa’s Department of Higher Education (DHET) is to ensure that higher education institutions (HEIs) produce a steady flow of ‘ready for employment’ or ‘work-ready’ graduates. Universities of Technology (UoTs) offer a vocation-oriented curriculum. To prepare work-ready graduates, UoTs include a compulsory work-integrated learning (WIL) component in the curriculum. The expectation is that through WIL, learners will acquire the necessary practical experience to become ‘work-ready’ thereby enhancing the likelihood that they will be employed when they graduate. WIL is, therefore, a strategy for enhancing the learners’ employability graduation. WIL can be financially and non-financially demanding, therefore, UoTs have been searching for innovative ways to implement curricula in a cost-effective manner without compromising quality and effectiveness. In this paper, the researchers outline a research agenda that can be used by South African UoTs to identify a sustainable WIL strategy.

INTRODUCTION

Democratization in 1994 brought a number of significant changes in the South African system of higher education. A major change was the classification of universities into two main categories: traditional universities (TUs) and universities of technology (UoTs). The two types of university play different roles in the labor supply of the South African economy. The TUs provide an academic curriculum, whereas the UoTs provide a vocation-focused curriculum to ensure a steady flow of skilled and work-ready graduates for various positions in industry and commerce. A distinguishing component of the UoT curriculum is the inclusion of a compulsory work-integrated learning (WIL) component. Through WIL, learners acquire necessary practical experience to become ready for work thereby enhancing their chances of being employed at graduation. WIL can be financially and non-financially demanding and coupled with decreasing government financing for higher education institutions (HEIs), UoTs are constantly looking for innovative strategies for WIL implementation to deliver their mandate for work-ready graduates.

The challenge for UoTs is to identify a cost effective WIL strategy capable of enhancing learners’ employability on graduation. Fleming et al. (2009) agree that the challenge in providing cooperative education or practicum experiences (as WIL is often described) is identifying ways to prepare students for the workplace. The University of Leicester (2009) concluded that although work-based learning elements in curricula enhance students’ employability, implementation remains difficult. The question for South African UoTs is: What type of WIL strategy will optimally enhance the employability of UoT graduates? The purpose of this paper is to chart a research agenda for identifying a sustainable WIL strategy for a South African UoT. Emerging from this introductory section are two key concepts namely, strategy and WIL, which the literature review addresses.

Literature Review

On Strategy

Numerous definitions for strategy are found in the literature. However, all seem to refer to ‘a plan to achieve a major goal’ (Business Dictionary 2013; Oxford Dictionary 2013). This inference is consistent with Nickols (2013), who de-
fines strategy as the formulation and implementation of a sound plan that allows organizations to achieve their objectives or goals. Therefore, the implementation of innovative strategies allows organizations to remain operational (The Times 100 2013:2). An innovative WIL strategy enables UoTs to produce graduates that are ‘a cut above the rest’ in terms of employability. That is, an innovative WIL strategy will enable UoT graduates to outcompete other jobseekers. Although there are numerous competitive strategies, the literature agrees that Harvard professor, Michael Porter, is a (if not, the) foremost opinion leader with respect to competitive strategy. Porter’s (1980) views on competitive strategy in his book on *Competitive Strategy, The Generic Strategies of Differentiation, Leadership in Total Cost and Focus* can be surmised as follows: a cost leadership strategy should be employed when organizations compete for the largest number of customers through price when goods or services are standardized, differentiation strategy is suitable when a product or service is provided with distinct qualities that are valued by customers and that differentiate the product or service from the competition, and a focus strategy is required when the aim is to serve a limited group of customers better than competitors who serve a broader range of customers (Allison 2013; Griffin 2013; Nickols 2013; Walters 2013).

For WIL, a focus on a cost leadership strategy is not the optimal choice for UoTs. A cost leadership strategy has limited appeal because UoTs are not competing for the largest number of students; as the Department of Higher Education and Training (DHET) restricts the number of students a UoT can admit. Similarly, a focus strategy has limited appeal because a large pool of university applicants provides UoTs with too much choice. In 2014 and the preceding years, numerous applicants were unable to gain admission to HEIs in South Africa. However, differentiation in the WIL strategy will provide uniqueness for UoT graduates that will set them apart from the graduates of other training institutions, particularly TUs.

**Work-integrated Learning**

*The Nature of Work-integrated Learning*

To establish a theoretical framework for WIL, the researchers first explain the term WIL. Zegwaard and Coll (2011) found a diverse range of terms for the same concept, such as cooperative education, work-based learning, workplace learning professional training, industry-engaged learning, internships, apprenticeships, and experiential learning.

One of the early conceptualizations of WIL by Kolb (1984) viewed experiential learning as the process whereby knowledge is created through the transformation of experience, which implies action intended to engage a learner in both critical reflection and problem-solving to improve a situation. Downey et al. (2002) argued that WIL requires cooperative education where students alternate study periods with work experience periods and apply the knowledge and skills they are learning. Martin and Hughes (2009) used the terminology work-based learning to refer to the integration of academic study and practical work experience. Bender et al. (2006) built on Kolb’s ideas by indicating that experimental learning process is a four-stage cycle consisting of solid experience followed by reflective observation, which leads to abstract conceptualization and active experimentation built on the concepts generated. According to Martin and Hughes (2009), WIL

(i) Provides a bridge between the academic present and the students’ professional future,

(ii) Provides an opportunity to apply and merge theoretical knowledge gained in academic studies to real world workplace practical experiences, and

(iii) Provides a three-way partnership between the student, the workplace organization, and the university.

Powell et al. (2008) emphasize this three-way WIL partnership that includes a combination of experiential learning in industry and on-campus academic learning. For the Australian Workforce and Productivity Agency [AWPA] (2014) and Hammond (2014), WIL is the umbrella term for all the different types of learning at the workplace. The University of Johannesburg (2015:11) defines experiential learning as “work- or service-based learning in accordance with program-specific requirements”; service learning as “a form of teaching and learning that is directed at specific community needs and integrated into a credit-bearing academic program and curriculum in which students participate in contextualized, well-structured and organized service activities.
aimed at addressing identified service needs in a community and wherein the students subsequently reflect on such experiences in order to gain a deeper understanding of the linkage between curriculum, content and community dynamics as well as to achieve personal growth and a sense of social and civic responsibility; and work integrated learning as “the component of a learning program that focuses on the application of learning in an authentic learning work-based context under the supervision and/or mentorship of a person/s representing the workplace. It addresses specific competencies identified for the acquisition of a qualification that makes the learner employable and assist in the development of related personal attributes”.

An examination of the above conceptualizations shows that WIL can be conceptualized differently. This implies that research on WIL should clearly provide a working definition in order to eliminate any confusion.

Operationally Defining Work-integrated Learning

Despite the apparent differing terminologies and definitions, it is clear from the discussion that the term WIL, cooperative education, work-based learning, workplace learning professional training, industry-engaged learning, internships, apprenticeships, and experiential learning refer to the same thing and manifest as a three-way partnership that involves two distinct learning settings, on campus and in the workplace, with the workplace learning applying and integrating classroom-based theory with practical learning in the workplace through experience. Consequently, and consistent with Patrick et al. (2008), WIL is operationally defined as: ‘an umbrella term for a range of approaches and strategies that integrate theory with the practice of work within a purposefully designed curriculum’.

With an established understanding of WIL, the researchers consider its benefits in relation to the enhancement of employability.

Benefits of Work-integrated Learning

Table 1 shows the findings concerning the benefits derived from WIL and obtained from various researchers through a literature survey. Although the list in Table 1 is not exhaustive by any means, it is meant to highlight some of the benefits that UoT graduates can potentially gain from effective WIL programs in their universities. For example, AWPA (2014) agrees with Cullen (2008), Fleming et al. (2008), and Franz (2008) that effective WIL programs can develop in graduates the qualities of good communication, time management, reflective thinking, maturity, independence, and self-confidence, all of which can contribute to employability. Similarly, AWPA (2014) concurs with Agrawal (2013) that WIL is critical to the development of practical skills. Swirski and Simpson (2012) find that a broad range of personal, social, and professional capabilities are developed through WIL. The multiplicities of the supposed benefits of WIL, as well as the plethora of definitions are indicators that WIL conceptualization hence, strategy formulation can be complex.

Problem Statement

The implementation of WIL can be expensive and complicated, and coupled with the growing significance of WIL, there is a need for accelerated research to identify a cost effective WIL strategy that does not compromise learning effectiveness in enhancing graduate employ-
ability. Completed and current studies in the field of WIL in the South African context address broad subjects such as the management of WIL (Du Plooy 2007; Wessels 2007), WIL in the further education and training (FET) sector (Bronhorst 2007; Volschenk 2005) and mentorship in WIL (Keating 2008). Additionally, of two other completed studies, one investigates the WIL experiences of students in a specific program (Steenkamp 2007) and the other researches the influence of WIL on test results in a specific module (Potgieter 2003). A most recent publication has to do with work-integrated learning in the hospitality sector by Nicolaides (2015). No studies have been found that focused on strategy optimization for WIL implementation in general, let alone in HEIs. UoTs, therefore, have no examples from ways to draw concerning WIL implementation. There is, therefore, reason for UoTs to search for innovative cost-efficient ways to implement WIL without compromising its effectiveness. This paper provides a research agenda for identifying sustainable WIL strategies for UoTs.

Objectives

The main objective of this paper is to chart a research agenda to identify and develop a WIL strategy capable of enhancing the employability of UOT graduates. The secondary objectives of the paper are the following:

1. To suggest possible research questions.
2. To suggest an appropriate research design.
3. To discuss pertinent methodological issues.

RESEARCH METHODOLOGY

This section identifies specific research questions, the appropriate research design among the many possibilities, and highlights pertinent methodological issues.

Possible Research Questions

Although it is reckoned that individual UoTs may identify their own specific relevant research questions, the researchers suggest the following specific research questions.

1. What does the literature reveal concerning the potential contribution of WIL towards graduate employability?
2. What does the literature reveal concerning possible strategies to integrate WIL into the curricula?
3. What is the employer perspective concerning the contribution of WIL towards enhancing the employability of students?
4. What is the current status of WIL in a particular UoT?
5. What are the views of employers, students, WIL departments, and various academic departments of UoTs concerning the optimization of the employability of students through WIL?
6. What best practice examples, locally and internationally, can UOTs draw on in their pursuit of WIL?

Pertinent Methodological Issues

The underpinning research philosophy must be understood before an appropriate research strategy can be designed because the philosophy guides the entire research including the research design. Accordingly, the following section discusses pertinent philosophical issues to be considered.

The Research Philosophy or Paradigm

For convenience and brevity, the researchers discuss the two common and broad classifications of research philosophy, positivism and interpretivism. Briefly, the positivist paradigm emphasizes objective measurement and relies on statistical methods for data analysis (Williams 2011). The interpretivist approach, however, is subjective in the sense that it seeks to understand phenomena in context-specific settings (De Vos et al. 2011) and is aimed at gaining insight into people’s attitudes, behaviors, concerns, and motivations. The interpretivist approach collects in-depth information and achieves a deep understanding of contexts that require trading detail for generalizability (DJS Research Limited 2009). Although a problem can be addressed from any one method or a mixed method approach, the researchers recommend a positivist approach as opposed to the interpretivist approach to obtain maximum stakeholder perspectives, which is impossible using the interpretivist approach. The positivist approach has direct implications for the chosen research design.
Possible Research Design

As with research philosophy, the research design can be categorized into two broad categories: qualitative or quantitative research design. Qualitative research emphasizes on the understanding of phenomena through the interpretation of people’s words, actions, and behavior (King and Horrocks 2010). The aim is to create descriptive analyses to obtain a deep and interpretive understanding of the subject under investigation (De Vos et al. 2011). These models are consistent with the interpretivist philosophy. However, quantitative research designs typically involve the pursuit of facts (De Vos et al. 2011) often by conducting questionnaires that require a choice between definite answers (Cohen et al. 2011) and measurement and analysis of relationships between variables with findings presented in numerical format (De Vos et al. 2011). The researchers consider quantitative design to be the most appropriate because philosophical choice represents positivism.

There are many quantitative research design types, and the design can be experimental or non-experimental (descriptive). Experimental studies imply a cause and effect relationship (Williams 2011). In non-experimental or descriptive studies, there is no manipulation, but at least one variable ‘logically’ has some effect on another variable (Cohen et al. 2011). Thus, in non-experimental studies, the focus is typically on relationships that are descriptive in nature. A descriptive study establishes associations between variables, whereas an experimental design establishes causality between variables (King and Horrocks 2010).

To develop a strategy to optimize the contribution of WIL to the employability of students, data collected at a particular point in time can determine the type of relationship that exists between WIL and the employability of students, which is alluded to by Cohen et al. (2011). This implies that a descriptive study is applicable to this research. Although descriptive studies can involve univariate analysis, to be of value, a study should include at least two variables and at least determine an independent (IV) and dependent variables (DV). This paper considers the independent variable to be the WIL strategy and the dependent variable to be the employability of students.

Cohen et al. (2011: 522) suggest a survey as an ideal data-gathering tool for descriptive studies because ‘it gathers data on a one-shot basis, ascertains correlations and provides descriptive, inferential and explanatory information’. A survey is, therefore, considered the most appropriate method for this paper because causality is not of significance. Rather, this research requires a descriptive study that produces associations.

A survey naturally requires a questionnaire, a ‘widely used and useful instrument for collecting information, providing structured, often numerical data, can be administered without the presence of the researcher and often being comparatively straightforward to analyze’ (Cohen et al. 2011). A questionnaire with closed questions (Likert scale) can provide the rating, views, and opinions of employers concerning the nature of WIL that will enhance the employability of students. The researchers suggest that a qualitative study involving the use of open-ended questions to gather in-depth and rich qualitative data should complement the survey because structured questions cannot provide a deeper understanding to the same extent as an in-depth study (Cohen et al. 2011).

Population and Sampling

To yield quantitative data, each study should ideally be composed of the entire population of all active WIL employers used by the UoT and the entire lecturing staff. However, should the numbers be too large to practically manage, then a reasonably representative sample of the population could be selected bearing in mind the type of statistical analysis to be used. It is advisable to use the expertise of statisticians at this stage.

Data Collection

The quantitative data is usually collected by means of a questionnaire with close-ended questions. The researchers propose a Likert scale in which participants will be asked to respond to a series of statements on WIL implementation. It may be necessary to conduct a pilot study using convenience sampling of, for example, ten employers and 20 students and lecturers across disciplines to assist in testing the instruments selected for errors and ease of use.
Data Analysis

The responses to the Likert scale questions can be captured in a table format from which both descriptive and inferential statistics can be inferred. While descriptive statistics provide an overview, inferential statistics enable the researcher to make predictions or inferences concerning the population studied based on sample data and to generalize inferences to the larger population that the sample represents (Crossman 2013). Such statistics are required to determine whether a correlation exists between the competencies and skills required by employers in the various occupations and industries, for example, engineering, tourism, education, and marketing. Additionally, the researcher can determine whether an imbalance exists between the skills possessed by students and those required by employers, the five most important skills in every industry or occupation, and the optimal way(s) to acquire those skills using a modality or combination of modalities of WIL and the quality cycle of WIL. The SPSS software package is recommended for data analysis because it is a proven package for producing reliable inferential and descriptive statistics.

Ethical Considerations

Participants must be informed in writing about the aim of the research and assured of anonymity and confidentiality. As alluded to by the Canadian Institutes of Health Research, Natural Sciences and Engineer Research Council of Canada (2014), Thought exchange (2015) and University of Ottawa, anonymity in research means that it should not be possible to link information gathered from a research participant (personal or organizational) to the individual or the organization, while confidentiality means any information on a research participant cannot be made public without the prior consent of the individual research participant. It is reasonable to expect confidentiality and anonymity to be very important concerns for employer organizations that like any organization would naturally want proprietary information not to be divulged.

LIMITATIONS

This research is limited to a sample of active employers used for WIL at a particular UoT during a specified period. Some employers may be inactive during the time that the data is collected.

CONCLUSION

The competitive environment of higher education emphasizes the need for innovative approaches to WIL implementation to respond to increasing employer demand for workplace ready employees.

The integration of theory and practice through WIL has an underlying intention. WIL is by implication an active process of student involvement that applies theoretical concepts to the practical work situation. This active process is the linking of new information acquired by learners to previously acquired information. The four-stage cycle of experiential learning theory accentuates active student involvement in the process of student learning and development.

The introduction to this paper stated that the aim of the research is to chart a research agenda for a South African UoT to determine a WIL implementation strategy that will optimally enhance the employability of its graduates.

The review of the related literature showed that a thorough theoretical perspective on WIL and its contribution to enhancing the employability of students is required. The literature also highlights the importance of participating employers as an extension of the learning environment and the significance of their roles in commerce, industry, and the public sector as the ultimate judges of student employability. The views of employers, as well as the students and the university as partners in the three-way partnership were also identified as critical in determining: (i) the benefits or skills developed through WIL related to employability; and (ii) a strategy to be developed for WIL towards optimizing the employability of students.

RECOMMENDATIONS

For Practice

The researchers consider that, ultimately, developing a strategy that can optimize the contribution of WIL towards the employability of students requires (i) determining the current status of WIL, (ii) determining the goals to be achieved, and (iii) determining how to achieve those goals through a SWOT analysis and by
setting objectives (the what) and the strategy (the how) to achieve those goals.

For Research

It is often the case that prior to the research, confidentiality agreements are required that limits who should know the link between data and participating individuals or organization. It is therefore recommended that UoTs enter into confidentiality agreements with employer organizations prior to their research.

It is also important that in the conduct of research to identify WIL strategy, UoTs take every precautionary measure not to link any information gathered in the research to the individual employer organizations. Further, should the need arise at all to make information available to the public, prior consent of the individual employer organizations should first be sought. Above all, prior to the research being undertaken, assurance should be given to employer organizations concerning anonymity and confidentiality.

REFERENCES


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