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Workplace-Based Learning in Action

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ACKNOWLEDGEMENTS AND WELCOME

Shakeel Ori

President: Southern African Society of Cooperative Education

Welcome to the third edition of our fledgling Journal! The Southern African Society of Cooperative Education (SASCE) is confident that Volume 2, No 2, will be welcomed by all of those interested in the practice of work-integrated learning (WIL) in South and Southern Africa.

The theme for this edition is '*Workplace-based Learning in Action*'. The intention was to showcase some practical solutions to implementation problems that may arise. All of the articles in this edition, in some way or another, address these problems. We would like to thank the authors for their inputs and would like to invite other cooperative education and WIL practitioners to make their voices heard.

Furthermore, we need to nurture the emerging community of practice and open up to a broader audience, including workplaces and public and private colleges. For this reason, we are very pleased that one of the papers in this edition deals with the public college sector.

As for the first edition, SASCE also invited academics in Southern Africa to contribute to the Journal. In this Journal we have a contribution from Mozambique, from the *Universidade Pedagogica,* in Maputo. In keeping with our vision to be responsive to the African context in respect of WIL, we will continue to encourage such contributions.

SASCE is determined to take the lead in the renewed interest in WIL. The Journal is one way in which the debate is kept uppermost in the minds of decision-makers. A policy framework for WIL is another way in which we can ensure that we are moving forward in terms of our understanding and implementation of WIL throughout the system. Volume 2, No 1, of the Journal was dedicated to the development of a policy framework. When it was published in May 2014, SASCE invited practitioners and interested parties to comment and add to the draft framework – this invitation is still open. For an electronic copy of the draft framework in order to make inputs, please contact Ronel Blom at **Ronel.Blom@wits.ac.za**.

Enjoy this third edition!

Shakeel Ori

EDITORIAL COMMENT

Ronel Blom

Acting Editor

Workplace-based learning in action

This edition of the African Journal for Work-Based Learning is addressing some of the real, practical implementation issues in relation to Work-integrated Learning (WIL), hence the sub-title *'Workplace-based learning in action'*. Four papers deal with the management of WIL, both at an institutional and programme level, the lack of workplaces for formal work-based learning and, the success factors for implementing work-based experience in the college sector.

The first two papers are from the Tshwane University of Technology (TUT) which recently concluded a two-year long review and redevelopment of their cooperative education approach. This was necessitated due to the differences in practices of three previous technikons when they merged and became one university of technology. The Wessels paper deals with the development of a management model in respect of WIL at all the levels of the university – starting however, with the recognition that work-integrated learning is an integral part of the institution's teaching and learning strategy, and therefore worthy of the attention and focus of the highest governance levels of the university. This paper describes the journey and outcomes of the renewed focus on cooperative education and WIL and analyses three different management models namely a centralised, decentralised or hybrid model. Central to the final management model is the fact that as a career-orientated institution, WIL is an important curriculum matter.

The paper by Cilliers and Smit expands on this theme by investigating how WIL should be dealt with in a particular programme – the Interior Design programme, bringing the management discussion down to the micro level. However, these authors also show how students directly benefit from workplace experience and how it assists in the development of employability skills and self-confidence, which suggests that an integrated curriculum (a combination of classroom practice and workplace practice), is a meaningful vehicle to achieve the outcomes of a career-focused qualification.

The third paper by Da Costa from the *Universidade Pedagogica* in Mozambique turns our attention to the familiar problem in relation to work-based learning – the lack of sufficient workplaces where students can attain workplace experience in terms of their formal programmes. Da Costa's study investigates informal work-based learning which is occurring in especially, economically depressed suburbs in Maputo. He links these observations to Lave and Wenger's organisational learning modes and comes to the conclusion that students in workplaces often finance their own learning within the organisation; that learning in workplaces is often unplanned and spontaneous; that while there is no obvious curriculum, learning is based on the disciplines underlying the professions for which they are preparing themselves; that masters (teachers) in workplaces often use very different delivery modes; and that the students themselves have a very clear idea as to why they are learning. A key point made by Da Costa is that this phenomenon may have implications for policy on WIL in Mozambique.

The final paper by Roopnarain and Akoobhai from the Swiss South Africa Cooperation Initiative (SSACI), discusses a pilot project implemented in the Technical and Vocational Education and Training (TVET) college sector. The purpose was to develop the capacity of colleges to introduce work-based experience (WBE) in terms of college programmes. The overwhelming finding emerging from the pilot project is that all stakeholders benefited greatly from their involvement. Employers in particular were favourably impressed by the content knowledge learners brought to the workplaces. Learners, on the other hand, became more motivated as they were able to see the application of knowledge learnt at the college, in the workplaces. The paper ends with a list of critical success factors for the implementation of WBE and WIL in the college sector.

SASCE hopes that this edition of the Journal will be as useful to readers as the previous editions. It is important that the sector continues to participate in debates on work-based learning, and also to contribute to a growing body of knowledge of the practice.

Ronel Blom

COOPERATIVE EDUCATION AT THE TSHWANE UNIVERSITY OF TECHNOLOGY: A NEW DIRECTION FOR WORK-INTEGRATED LEARNING AND EMPLOYABILITY

Marius Wessels[1]

Tshwane University of Technology

Abstract

This article deals with the development of a new strategy for cooperative education at the Tshwane University of Technology (TUT). A new strategy was necessitated by the institutional and higher education system changes over the last few years. These policy decisions have tended to take the attention away from a practice that, in the past, was integral to the mission of what was previously known as technikons – the placement of students in workplaces to gain meaningful workplace experience that will enhance the employability of its graduates.

However, since 2009, with the establishment of the separate Department of Higher Education and Training (DHET), there has been renewed interest in cooperative education as a teaching and learning strategy that will enable young people to gain authentic workplace experience.

In response, the Tshwane University of Technology embarked on a process to reengineer their cooperative education practices. This article describes that journey and the new strategy and management structure emerging from the process.

1. Introduction

Cooperative education as a teaching and learning strategy (Engelbrecht, 2003:6) corresponds with the Tshwane University of Technology (TUT) teaching and learning strategy. It is managed by the Directorate of Cooperative Education (DCE) of the University, which falls under the supervision of the Directorate of Higher Education Development and Support (HEDS), which reports to the DVC Teaching Learning and Technology (TLT) in the University. The DCE was established in 2004, after the merger of the former Pretoria Technikon, Northern Gauteng Technikon and the North West Technikon. Cooperative education at the university is managed by means of a centralised and decentralised (hybrid) management model.

The University has about 54 000 students, seven faculties and between 5000 and 6000 registered work-integrated learning students. This puts great pressure on available resources. The DCE is currently made up of four full-time staff members, namely a director, secretary, administrator and employability practitioner. The question with which this article is concerned is whether the current cooperative education model serves the university adequately in terms of its demands and current size and shape. 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. The merger process and the establishment of the a new higher education landscape could possibly have impacted

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negatively on universities with cooperative education units, and necessitates a reconsideration of the management of cooperative education in terms of its effectiveness, output delivery and impact on work-integrated learning (WIL) at the university.

Furthermore, funding reports at the university revealed that funding for WIL was not adequately used by departments to monitor students at the workplace. Annual reports on student preparation, placement and debriefing were also not an accurate reflection of the real situation. Such information was compiled by the director of cooperative education institutionally and was presented to the DVC: Teaching Learning and Technology (TLT) and to deans of faculties. They concluded that the current management model and resource capacity were inadequate. A formal mandate was then given to the director to develop a new strategy and structure for cooperative education, taking into account the university structure and capacity and the current faculty and campus scenarios.

Because the institution is a university of technology with a career-focused education philosophy, which incorporates WIL as part of its qualifications, there was a need to discuss the strategy and structure of cooperative education and to benchmark the university.

A process to develop a new strategy and structure was launched in the form of workshops engagement and benchmarking, with the intention to investigate existing gaps in WIL and employability at faculty and institutional level. For this purpose, a task team was established to engage with all internal and external role players. The task team was established through the academic committee of the university and consisted of both internal and external role players, including some deans, academic and cooperative education practitioners and WIL practitioners in faculties. A comparative study was then undertaken, which included benchmarking of both local and international universities in terms of cooperative education, WIL and employability.

2. Literature study

2.1 Management of cooperative education and work-integrated learning (WIL) in higher education institutions

The management of WIL at universities varies according to the nature and type of institution, as well as the country. In South African higher education, a distinction is made primarily between the traditional, comprehensive and technological university sectors. According to the HEQSF (SAQA, 2013:51) the application of WIL involves all three categories of universities in South Africa. Traditionally, experiential learning (now referred to as *WIL*) was limited to the former technikons, which have since been replaced by universities of technology. Currently, WIL is managed differently by different institutions, and also among different universities of technology, both nationally and internationally.

It is imperative that a university selects the most suitable management structure to achieve optimal results in terms of WIL. To achieve this 'ideal' management structure, a process of consultation (Wilson, 1997:29) and buy-in is required from all role players in the university (academic staff, support staff and students) and preferably external role players (employers) as well.

The former CTM standing committee on cooperative education in South Africa (CTP, 2000:11), described three management models. The *centralised model* involved a central unit with a full-time manager and cooperative education coordinators with administrative support staff; the

decentralised model involved all the lecturers/coordinators located in academic departments, and the *integrated (hybrid) model* involved a central department/unit with a manager and support staff with academic/WIL coordinators/s, located in the various faculties.

In a benchmarking exercise (see Table 2), it was observed that most universities of technology (UoTs) in South Africa apply a centralised/decentralised (hybrid) management model, which implies a centralised office and a decentralised component located in faculties, in which all role players are involved in cooperative education (Wessels, 2003:5). In this regard, Lazarus and Oloroso (2004:181) refer to Boud and Solomon's conclusion that 'the most common approach to date has been to locate the co-op administration as part of a program structure within existing schools or faculties, as the Anglia Polytechnic University, or within its own faculty structure as has occurred at the Middlesex Universities'.

Irrespective of which management model is selected, it is crucial that an appropriate quality management system (QMS) for WIL is in place to ensure that the intended outcomes are achieved. In addition, the necessary policies, strategies, procedures, systems and resources should be in place for the quality management of WIL, as part of the core function of the teaching and learning strategy in HEIs in South Africa (CHE, 2004:1).

According to De Lange and Gilbert (1994:1) and Jacobs (2000:1), 62% of American programmes function on a combined or centralised/decentralised basis, which may be interpreted as an integrated (hybrid) approach. In the United States of America (USA), centralised administration are predominantly preferred over a decentralised administration (De Lange & Gilbert, 1994:1). Nevertheless, regardless of the management structure/model chosen, all role players should participate in the choice of such a model; with sensitive and careful guidance by the cooperative education manager or director to provide in all cooperative education needs of all role players. Taylor *et al.* (2005:10) indicated that the establishment of a cooperative education unit has a positive impact on WIL.

The concept of an integrated (hybrid) management model is interpreted differently at various universities and higher education institutions in South Africa. The latter management model requires strong leadership (CTP, 2000:6). Lazarus and Oloroso (2004:179) point out that programme administrators use the terms *centralised* and *decentralised* differently, and *decentralisation* could simply mean separation from the placement function, or that each academic unit has an autonomous cooperative education programme with its own cooperative education staff reporting to different heads; whereas *centralisation* could mean that one unit is responsible for all the institution's programmes.

According to Wessels (2003:3) the successful management of cooperative education in HEIs in South Africa depends on various factors, such as the size of the HEI, the nature of the academic programmes, the nature and structure of the faculties, the culture of the HEI and level of support from senior management.

2.2 Line of reporting of the cooperative education/WIL manager

Wilson (1997:28) identified two principal offices to which WIL programmes should report, namely the chief academic officer or the chief student affairs office, with a preference to reporting to the

chief academic officer, since WIL is a curriculum matter. According to the best practices in cooperative education (CTP, 2000:12), there are two principal offices to which cooperative education programmes report in the USA, namely the chief academic officer (academic vice-rector) and the dean of student affairs. If a centralised management structure is used, WIL should report to the academic head, whilst in a decentralised system WIL reports to the head of the department and the dean (CTP, 2000:12). Nationally, this trend has also been observed in HEIs, more specifically in the universities of technology and comprehensive universities in South Africa.

For this reason it is recommended that a "direct" line of vertical report/communication should exist between the academic head and the manager for cooperative education/WIL.

Many problems may be experienced with an "indirect" line of vertical reporting by cooperative education/WIL managers, for instance where a cooperative education manager reports to a director (academic support), who in turn reports to the academic head. This may restrict and discourage cooperative education managers, especially if the directors in question do not fully support or fully understand cooperative education principles and purposes. It is of critical importance that cooperative education managers report directly to and remain in regular contact with the head of the academic institution to ascertain and keep in line with the strategic needs of the HEI (Wessels, 2003:3)

2.3 Resource provision for cooperative education/WIL

Staffing for cooperative education depends on the type of management model used. If a *centralised* model is used, it may consist of a director, WIL coordinator/s and support staff. If a *decentralised* model is used, WIL lecturers are used and are located in their respective faculties who report to the dean of the faculty in question (Engelbrecht, 2003:61). An *integrated* (eclectic) or *hybrid* management model would involve staffing as required for a central office, for instance a director, secretary and WIL coordinators located in faculties (De Lange & Gilbert, 1994:1). This trend has been observed both nationally (CTP, 2000:13) and internationally (University of Waterloo, 1996:3).

According to the best practice in cooperative education (CTP, 2000:13) the number of WIL coordinators per programme depends on various factors such as the number of students, availability of employment opportunities and distribution of students among different curricula. An international study by Jacobs (2000:2) reports the ratios of WIL students to cooperative education staff (coordinators) as follows:

International HEIs:	88:1
South African HEI (UoTs/technikons):	234:1
Mean for all 53 institutions:	101:1

For very large programmes, WIL coordinators are sometimes supported by assistants. Support staff is needed to handle the correspondence, appointments, travel arrangements and the records of WIL coordinators (CTP, 2000:14). Jacobs (2013), in a study on a workload model for WIL at the Central University of Technology and Wessels (2013), in a similar study at the Tshwane University of Technology, found that a ratio of 1:150 of full-time WIL staff and WIL students was the practice at the universities in question.

2.4 Roles and responsibilities

The core business of WIL is dependent upon the commitment of the WIL lecturers/coordinators. Lazarus and Oloroso (2004:183) refer to *A Professional Inventory for Coordinators: Functions. Skills and Competencies* (Nolan, 1988), where the roles and responsibilities, the details of the tasks, and the skills and competencies of WIL coordinators, are described. This inventory was extended to a higher level of analysis, which included the responsibilities of the cooperative education director (Lazarus & Oloroso, 2004:184). As the students' academic studies are integrated with work experience gained at the workplace, the major task of the WIL coordinator is to collaborate with the appropriate lecturing staff and company to plan a total educational programme that may include both a theoretical and experiential learning component. Furthermore, it is important that WIL coordinators have the same qualifications in the specific field of study as the students they serve (CTP, 2000:13), to ensure a collegial relationship with academic staff in faculties (Wilson, 1997:29).

In conclusion, irrespective of the management model implemented, sufficient resources must be made available by senior management of HEIs to support cooperative education staff to enable them to deliver the required output.

2.5 Governance of cooperative education in HEIs: policies and procedures

For each university, adequate and functional governance structures, a strategy, policies, procedures and guidelines should be in place to ensure that WIL is functional within the chosen framework. At institutional level, universities should ensure the necessary governance structures such as institutional and faculty WIL committees and a policy framework to ensure that effective operationalisation takes place at programme level. The following topics, among others, were identified as 'Essentials of Cooperative Education' (CTP, 2000:11) to be addressed in policies and strategies in universities:

Mission statement of the University and cooperative education directorate;

Definition of cooperative education/WIL;

Outcomes of WIL in each course;

Principles, roles and responsibilities of the role players i.e. students, employers and university;

Companies and students;

Eligibility for WIL;

Preparation, placement, registration, monitoring, assessment and debriefing of students;

Management and control of WIL;

Record keeping;

Unsuccessful students;

Recognition of prior learning (RPL); and

Costing and funding.

According to Engelbrecht (2003:49), the vision, mission and goals of cooperative education/WIL in the university must be documented and the policies regarding student eligibility and company

participation must be implemented. Furthermore, the policy should include an organisational chart indicating how cooperative education fits into the university structure. Lastly, the policy and strategy should meet the requirements for WIL as set by the Council of Higher Education (CHE) for programmes and qualifications in higher education and the Higher Education Qualifications Sub-Framework (HEQSF) in South Africa. Industry, professional bodies, academic staff and students must attempt to support this framework (CTP, 2000:11).

At faculty level, policies and guidelines should be in place to guide students and staff with regard to WIL. This may include a code of conduct for students during WIL at the workplace, compliance with all the requirements for admission to the WIL programme, attendance or completion of a student preparation programme, completing an individual interview with the WIL coordinator, submission of a completed CV, signing a WIL learner agreement and achieving the required academic standards. Students should be encouraged to find their own placements – this may be a requirement in the curriculum as a specific outcome the student needs to achieve (Forbes, 2004). This process must be facilitated by the WIL Coordinator involved in the specific academic programme (Engelbrecht, 2003:52).

2.6 Administration and application of a management information system for WIL

Lazarus and Aloroso (2004:181) point out that there is a serious gap in professional literature regarding WIL programme administration. Engelbrecht (2003:59) refers to a WIL model that involves joint ownership of programmes between universities and the workplace, which should include all facets and role players of the total WIL process. 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).

Engelbrecht (2003:62) emphasises that technology is advancing and new possibilities to administer and manage WIL are being developed. The systems that are used should improve efficiency and reduce human resource requirements, since we are moving towards a paperless environment. Systems should be developed according to specific needs.

Systems used for cooperative education/WIL in South Africa were reported to be outdated in 1995 (Engelbrecht, 2003:62). Various international systems to administer and manage WIL are described by Engelbrecht (2003:63), and include MaPPiT, developed by the Huddersfield University in the United Kingdom; the DREXEL CMC system of the University of Drexel, Philadelphia; the system at the University of Waterloo (UW); and the George Washington University Career Centre (GW). Engelbrecht (2003:79) suggests a template for the planning of a calendar for WIL coordinators for universities.

In South African higher education institutions, limited management information systems (MIS) are available for managing cooperative education/WIL. Various local software packages have been developed, but the most commonly used system in South African HEIs is the Inter-Tertiary Software (ITS) system. Apart from other subsystems contained within the ITS system, a cooperative education subsystem has been developed for the management of cooperative education/WIL in universities. Many HEIs have successfully implemented this system (ITS, 2005), but in some universities of technology academic staff prefer not to make use of the system, for various reasons. It is imperative

that universities in South Africa do more research in this regard to find a MIS that can be used by academic and support staff for WIL.

3. Research Methodology

The aim of the research was to collect information to effectively compile a strategy and structure for cooperative education for the Tshwane University of Technology, based on the findings of an institutional cooperative education task team. Two methodologies were primarily used to obtain information, namely workshops convened with the task team and faculties of the university as well as benchmarking exercises on WIL and employability, locally and internationally.

3.1 Workshops

An institutional cooperative education task team was established through the academic committee of the university, and consisted of internal as well as external members. The internal members were faculty cooperative education practitioners from the science, engineering and technology environment and from the social management science faculties; two deans (one from the engineering and another from the management sciences faculty); a quality manager from the engineering faculty; an external director of cooperative education from another UoT; an internal and external facilitator; and a scribe.

Numerous workshops were conducted with the task team and university staff, to obtain inputs from the task team and university staff. A mandate was given by the DVC: TLT and Deans of faculties, to the Director: Cooperative Education, to develop a new management structure for the University due to some deficiencies identified in the existing cooperative education management structure of the university. This mandate was then used by the task team to develop a new structure on cooperative education for the university. The task team recommended the development of a new strategy before a new management structure could be developed. A new strategy was developed and progress reports were regularly submitted to the academic committee for comments. The task team identified two primary focus areas for cooperative education for the university, namely for WIL and graduate recruitment and employability. A final strategy and structure was then compiled for academic and senate approval purposes.

3.2 Comparative benchmarking exercises for WIL and employability

Benchmarking exercises on cooperative education, i.e. on WIL and employability, were conducted locally and abroad. *Locally*, the Director of Cooperative Education and the Employability Practitioner of the Directorate Cooperative Education scheduled visits (see Table 2) to a number of universities of technology, which included Vaal University of Technology (VUT), Central University of Technology (CUT) and Cape Peninsula University of Technology (CPUT); to comprehensive universities, which included the University of Johannesburg (UJ) and Nelson Mandela Metropolitan University (NMMU); and to traditional universities, which included the North-West University (NWU) and the University of Cape Town (UCT). *Internationally,* benchmarking involved researching the management structures on cooperative education of universities and included North Eastern University, University of Waterloo, University of Limerick (Ulster) in Ireland, University of Cincinnati and Queens College.

Benchmarking exercises were conducted prior to the convening of workshops with the task team and faculty staff members and information was considered as part of the discussions, which

incorporated the findings of such research as part of the strategy and structure development. The size and shape of the university was a major factor to be considered as part of the discussions and development process of the final strategy and structure.

Comparative benchmarking surveys on cooperative education, WIL and employability were conducted during the period of October 2010 and January 2011. In this case a closed/open-ended questionnaire was circulated mostly to universities of technology but also to one comprehensive university. The universities selected for this purpose included the Cape Peninsula University of Technology (CPUT), Mangosutho University of Technology (MUT), Vaal University of Technology (VUT), Central University of Technology (CUT), Durban University of Technology (DUT) and the University of Johannesburg (UJ).

The questions included those on the *management* of cooperative education on institutional level, such as the name of the central units if any, and reporting lines; *on students*, such as student registration fees and students registered for WIL; on *funding*, including matters such as subject levies; on *curriculum* development, such as inclusion of WIL in programmes; on the *WIL process*, such as student preparation, placement, monitoring, assessment and reflection; *on research* activities in WIL; and finally on *graduate recruitment and employability*.

In addition to the survey regarding WIL and employability, the universities were visited and interviews were conducted with the staff concerned to inform them about the closed/open-ended survey.

4. Findings

4.1 Strategy and structure

After numerous workshops by the cooperative education task team with faculties, a draft strategy and structure were compiled.

The final ***strategy*** entailed the following:

- Description of the *background*, i.e. reasons and mandate received for the development of the strategy;
- The strategy primarily makes provision for *two focus areas* in cooperative education in the university, i.e. WIL and Graduate Recruitment and Employability;
- *Defining WIL* conceptually;
- Report on an investigation of the *internal and external landscape* of cooperative education for the University;
- The *vision, mission, objectives and targets* to be achieved on cooperative education for the university;
- The new *governance structure* for WIL and employability for the university, involving institutional, faculty and departmental structures. It incorporates the terms of reference of the institutional WIL committee that will be a subcommittee of senate chaired by the DVC: Academic of the university. In each faculty an associate dean with WIL as part of his/her responsibility will serve on the WIL subcommittee of senate. In addition it incorporates the roles and responsibilities of all relevant governance structures at all levels in the university;

- An agreed management *structure for cooperative education* which includes WIL and graduate recruitment and employability in the University. This structure was based on the strategy that was developed, considering the size and structure of the university and the position the university has taken to include WIL in all qualifications in the university. In each faculty an information centre (centralised office) will be established to support all WIL and employability matters. At institutional level, WIL will be handled at a strategic level and graduate recruitment and employability at operational level;
- The *funding model* proposed by the strategy for WIL coordinators in faculties and employability practitioners in the DCE, with the necessary support staff. In addition, it includes recommendations on funding support of faculty and the directorate in relation to resource provision;
- The inclusion of a *WIL procedure* to be used by staff and students in all faculties in the university; and
- A comprehensive *role clarification* describing the key performance areas of all staff involved in WIL and employability at all levels in the university.

The newly compiled strategy and structure were presented to the academic committee and were officially recommended for approval by senate.

One of the first tasks involved defining WIL – see Figure 1 below:

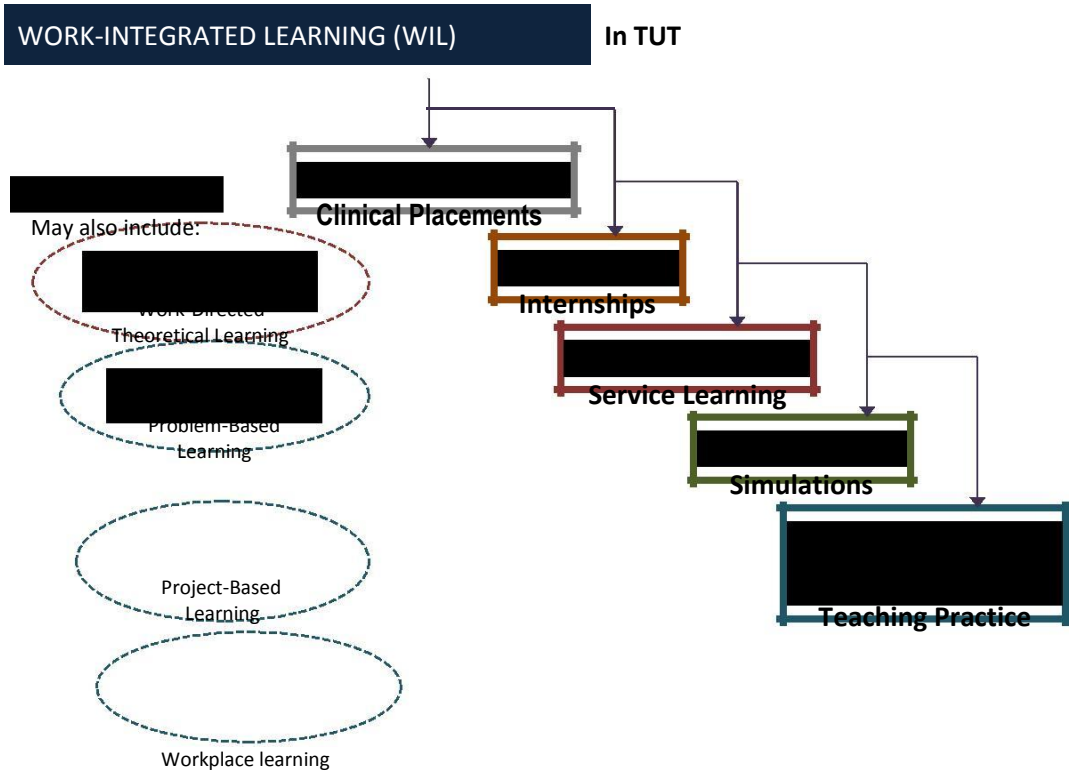


Figure 1: Defining WIL

The preferred management structure that emerged is provided in the following diagrams. The cooperative education unit is structured as follows (Figure 2):

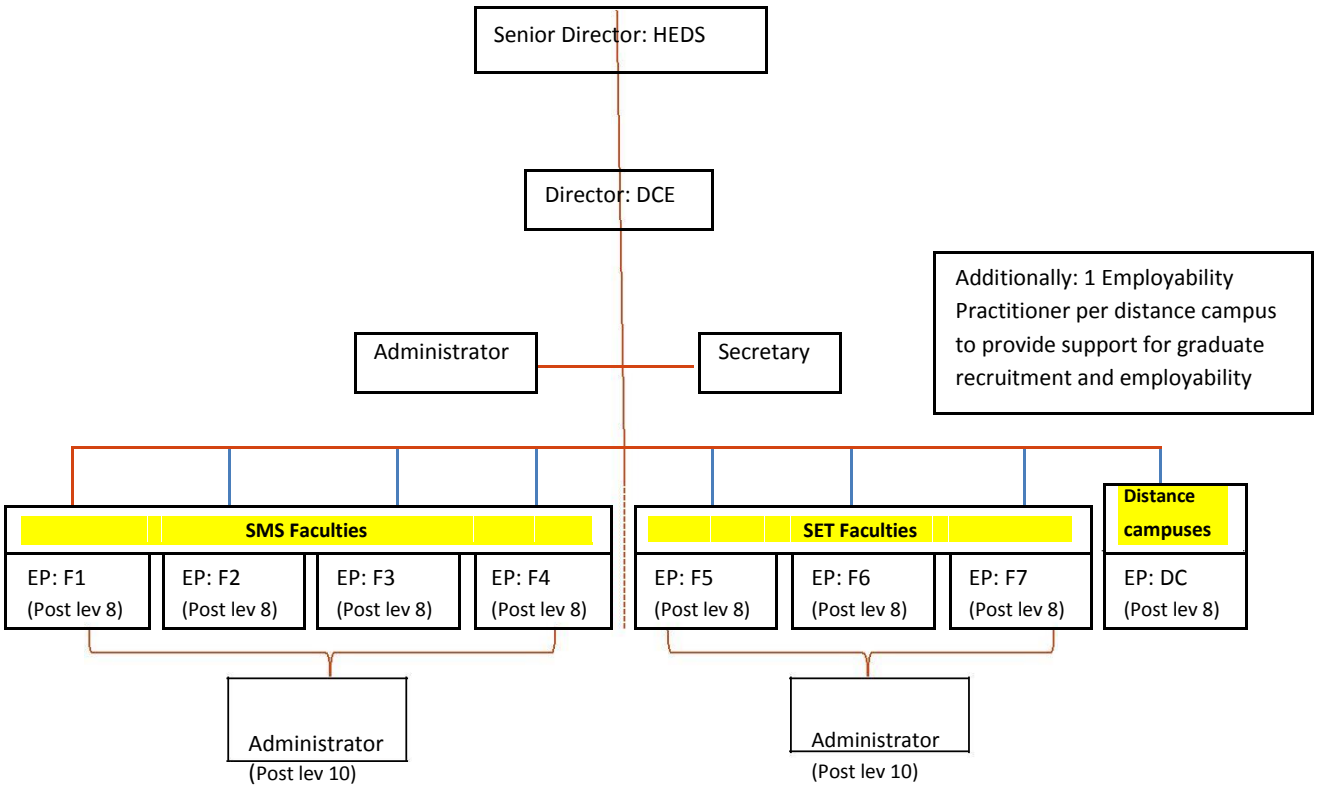


Figure 2: Directorate Cooperative Education Management structure

The faculty structure is as follows (Figure 3):

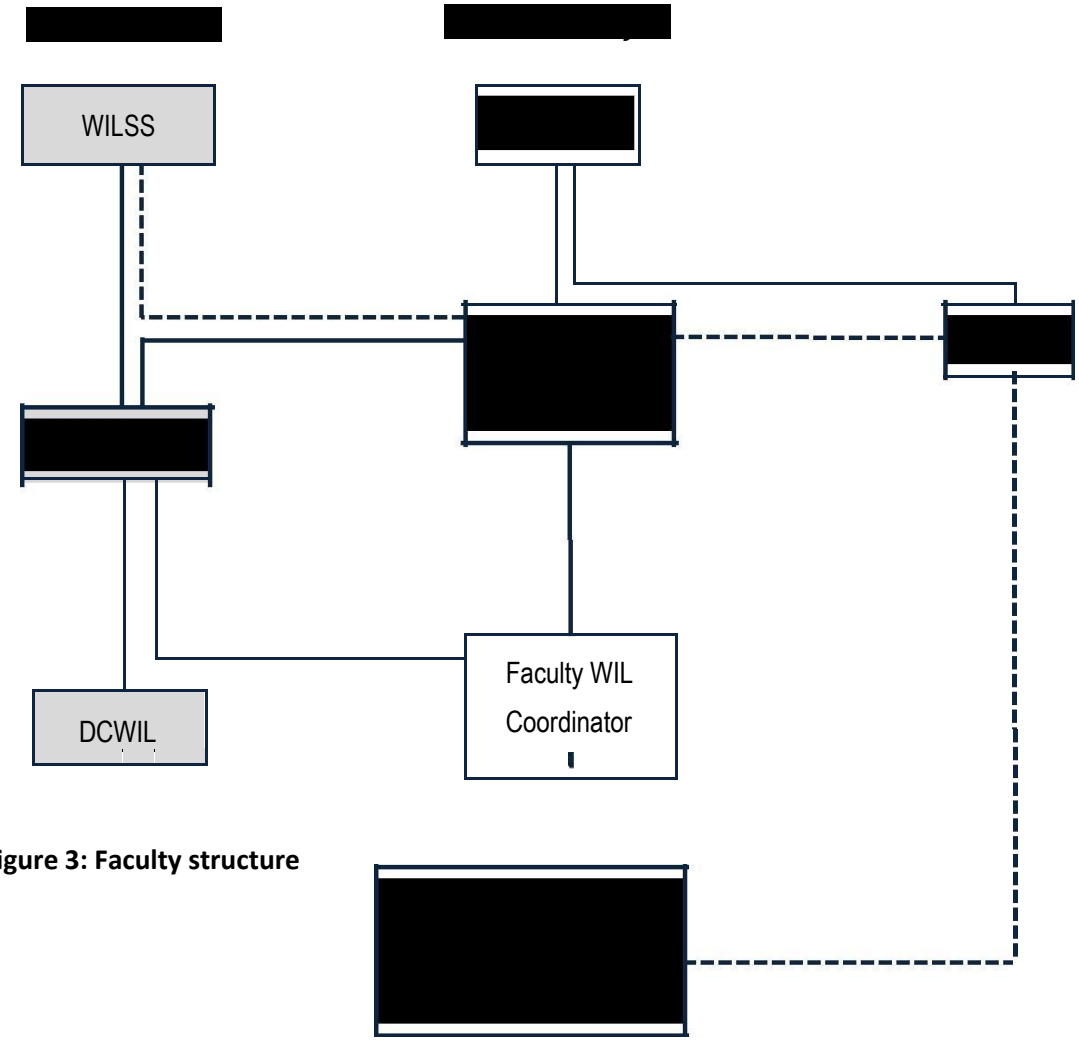
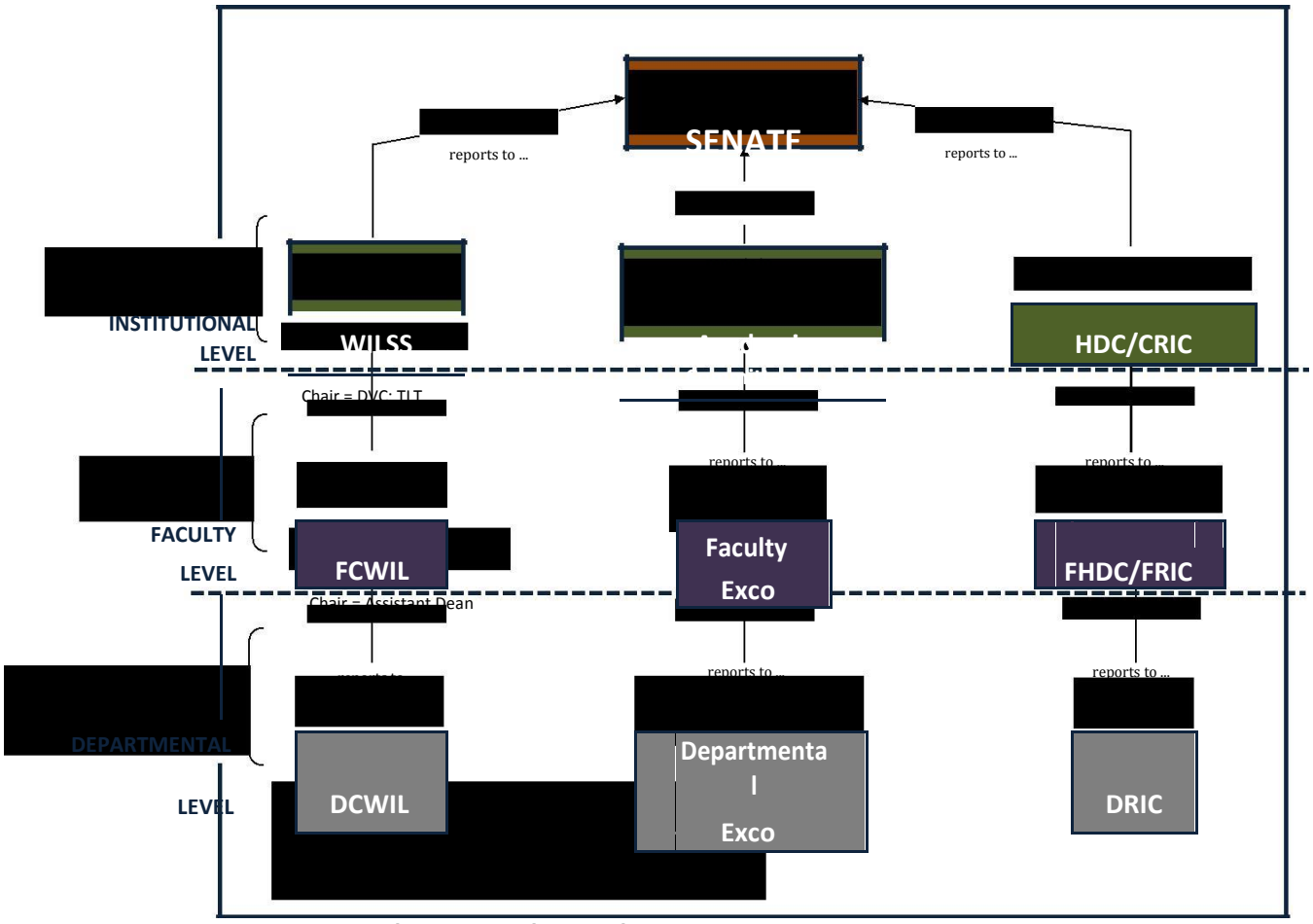


Figure 3: Faculty structure

(1:150)

The reporting lines are as follows (Figure 4):



Note: Some departments might not need a DCWIL, but may choose to discuss WIL matters under a standing item on the departmental agenda.

Figure 4[2] Governance Structure for WIL in TUT

5. Findings of benchmarking survey and interviewing exercises on cooperative education which included WIL, graduate recruitment and employability (see Table 1 and 2).

5.1 Strategy and structural development in the university

The mandate given by the DVC TLT and deans was successfully executed to develop a strategy with a management structure on cooperative education for the Tshwane University of Technology. The strategy identified two primary focus areas for the institution, namely WIL and graduate recruitment and employability. WIL was described by means of a diagram (see Figure 1) for clarification purposes for all staff in the university. It was decided to use the umbrella term *cooperative education* to describe the collaboration between the three main role players: the institution, the student and the workplace. In addition, rules and regulations and existing policies needed to be aligned with the newly developed strategy. The exploration of the internal and external landscape (locally and

[2] WILSS: Work-Integrated learning Subcommittee of Senate
FCWIL: Faculty Committee for Work-Integrated Learning DCWIL: Departmental Committee for Work-Integrated Learning

abroad) relating to WIL supported the development of the framework for strategy development for the university. The university has a clear sense of direction, according to its statements on the vision, missions, objectives and clear targets for achieving the necessary outcomes. The governance structures formulated at institutional, faculty and departmental levels will ensure adequate institutional management and execution of set objectives and targets. In addition, the implementation of a subcommittee of Senate will ensure attention to the niche area (WIL) at the highest level in university, with due attention to it in faculties and departments as well. Considering the size and structure of the university, the implementation of a hybrid model will ensure that WIL will be executed at faculty level through WIL coordinators, supported by employability and support staff in faculties under the leadership of an assistant dean. At institutional level, the directorate for cooperative education will be responsible for strategic leaderships on WIL and will operationally be responsible for employability at institutional and faculty level. Staff will be located in an envisaged information centre (venue) where WIL, employability and support staff will provide a service to all role players involved. A funding proposal to implement the strategy and structure was incorporated and presents a solution to its implementation institutionally. The quality assurance process for WIL formed part of the strategy and would be complemented by the process as part of the new policy on WIL. Service learning (SL) may form part of WIL at institutional level, since as in the case of WIL, SL is also a curriculum matter. Finally, the detailed addendum of the role clarification and concomitant Key Performance Indicators (KPIs) of all role players in the university will ensure that there is no confusion of roles and responsibilities regarding WIL and employability in the university.

5.2 Benchmarking and surveying

Cooperative education, WIL and employability

Surveys at the 6 universities of technology (UoTs) and one comprehensive university that were included in this study, revealed the following:

With regard to the *management of cooperative education* in UoTs, it was found that most universities of technology make use of a hybrid management model, using a centralised/decentralised model for the management of cooperative education in South Africa. There is therefore some form of centralisation as well as some form of decentralisation involved in the universities in question.

With regard to *human resource provision* for cooperative education, the cooperative education central units make use of 2 to 6 (X= 4) staff members and 2 to 39 faculty WIL coordinators in faculties. Limited staff is therefore used in the centralised offices and most staff are located in faculties.

The *number of registered WIL students* for UoTs for the period of 2010 ranges in from 1500 to 6000. Jacobs and Wessels (2013) recommend a ratio of 1:150 of full-time staff and students. For 1500 WIL students in a UoT, 10 WIL coordinators will therefore be needed. Thus, there is currently a lack of capacity to achieve the required WIL outcomes in the universities under discussion.

In terms *of funding*, students currently pay a registration fee for WIL in UoTs, since there is no government funding for WIL. The current registration fee for WIL at UoTs varies from R850 to R 3500 (X= R1,257) per student, depending on the field of study.

It was found that most centralised cooperative education units *report to the DVC Academic* of UoTs, as WIL is an academic matter. In exceptional cases the line of report was to the DVC: Technology & Research Innovation and Partnerships. It was also observed that some centralised cooperative education offices were referred to as a *directorate*, *department*, *WIL office*, *centre for community engagement*, *WIL* or *unit/centre for WIL*.

With regard to *curriculum development of WIL*, there was general agreement among UoTs that WIL should form part of all qualifications, in accordance with the niche of the UoT environment.

Concerning the *WIL process, most respondents* indicated that *student placement* is done in collaboration with students, Coop Ed/WIL and lecturing staff. There was no indication that students alone are responsible for placement themselves, although it is the policy of most UoTs that this is the sole responsibility of students. Most UoTs indicated that academic staff was predominantly responsible for monitoring and assessment of WIL students. Some respondents indicated that certain WIL/Coop Ed coordinators were involved with both monitoring and assessment practices of WIL.

With reference to *student preparation* for WIL and the workplace, respondents indicated that most UoTs prepare students. It is not clear what this preparation entails, and there is a need for the preparatory programmes for WIL and the workplace to be standardised by UoTs.

It was found that most UoTs do *research on WIL*. The exact nature of these research activities needs to be determined and thus presents an opportunity for researchers/practitioners, also with regard to the needs for this research.

5.3 Graduate recruitment and employability

The following discussion includes findings about four UoTs (VUT, CUT, DUT and TUT), two traditional universities (North-West University (NWU) and University of Cape Town (UCT)) and one comprehensive university (University of Johannesburg (UJ)).

With reference to an *employability office* on campus, respondents for all universities indicated that there was such a unit, either as a separate unit or as part of a cooperative education unit. In the case of traditional and comprehensive universities, the employability office was an independent unit, whilst at UoTs it was usually incorporated as part of the cooperative education unit.

Different universities use different terms for the employability office: traditional and comprehensive universities use the terms *career centre* and *career development programme*, while UoTs refer to a *WIL unit* or *cooperative education department/directorate*.

The *HR 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. In traditional and comprehensive universities the units consisted primarily of career advisors/consultants, while in UoTs a similar pattern was observed. In all universities the line manager reports to the DVC: Academic, as in the case with the survey on WIL in universities (see 2.1). The post levels of the various staff were similar in almost all the universities, considering differences in the post level grading.

There was a marked similarity between the universities with regard to *the services rendered* by the central units, in that they mainly focused on career advice and student preparation for the workplace. In UoTs, no career counselling formed part of the units, as in the case of traditional and comprehensive universities. Internationally this formed part of cooperative education in some universities, e.g. Drexel University.

Most universities have a budget for *funding* such units, for operational purposes. Traditional and comprehensive universities make use of online systems for managing student information and for employer advertisement and CV placement. Such units render services to faculties and other campuses in the universities in terms of career services and employability. In the case of UoTs, additional services for WIL are rendered. All universities had regular career fairs on campus for employers, in all universities the central office was located in a place where it could be easily accessed by students and in most cases the unit was an independent unit although it formed part of a group of directorates.

Overall, much similarity was found in terms of the function and services provided by the WIL unit at all university categories, with the exception of UoTs, which included WIL as part of their portfolio.

6. Conclusions

The aim of this article was to present the new direction the Tshwane University of Technology embarked on to address the gaps identified in cooperative education (WIL and employability) in the university, through a process of active engagement and through an institutional task team that performed benchmarking exercises locally and abroad.

The article represents the outcome of a two year engagement process with internal and external role players and provides a final product in the form of a new strategy and structure that was required. The intention was to address all the gaps that were identified and to improve the current cooperative education management system. The proposed hybrid management model for cooperative education institutionally and the inclusion of governance structures will ensure an adequate control and communication mechanism.

It is recommended that this *model be tested* for a period of three to four years to determine whether it is more effective than the current model and whether it is capable to deliver more in respect of WIL and employability outputs. It is encouraging that WIL has been prioritised by the university, by dedicating a subcommittee of Senate to it, and by making the university's senior management responsible for it, to ensure that it is properly managed and implemented. WIL should remain an important niche area in UoTs, but funding of this niche still remains a challenge for UoTs.

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A COMPARISON BETWEEN THE MANAGEMENT MODELS OF WIL FOR THE INTERIOR DESIGN QUALIFICATION IN UNIVERSITIES ABROAD AND UNIVERSITIES IN SOUTH AFRICA

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ABSTRACT

Limited data is available concerning the views of universities abroad and universities in South Africa on the management models for work integrated learning (WIL) for the Interior Design (ID) qualification. The purpose of this research was to compare the views on the management models and ascertain the current status of WIL in their programmes. The collected data from different Interior Design programmes was used to design a new management model for WIL for the Interior Design qualification. The research involved a literature review and an empirical study. A quantitative approach with regard to the method of research was applied. Ex post facto (non-experimental) research was undertaken by using certain areas of interest as a research instrument to collect data from a number of different universities lecturing in Interior Design. To compare the Interior Design programme management model between universities in South Africa and universities abroad, aspects of the respective models were illustrated in table format.

1. Introduction

The South African Institute of the Interior Design Professions (IID) (2013) is the only professional body representing the interior design industry in South Africa. Although this body directs its monitors and sets guidelines for the Interior Design (ID) profession, it does not include education in its observations, that is, how education takes place and for how long (www.iidprofessions.com). Unlike the Engineering Council of South Africa (ECSA) and medical professional bodies that provide input in experiential learning, (now known as work integrated learning (WIL)), Interior Design has no such monitoring body. The IID provides no guidelines or prerequisites for this type of training. Co-operative education still plays a major role in the awarding of qualifications to students, since WIL forms part of the curriculum of the prescribed Interior Design programme. (Tshwane University of Technology (TUT), Management, 2007:92).

The incorporation of WIL into an Interior Design course would improve the chances of employment for young people (Guile & Griffiths, 2001:115). However, Guile and Griffiths argue that 'the knowledge embedded in work roles is unevenly distributed in workplaces' (2001:114). They explain that there is a 'change and development that occurs within an individual as he/she moves from one context (e.g. school) to another (e.g. workplace)' (2001:114). This implies that this type of learning exposure to industry (WIL) is of value to a student's preparedness for industry, and it needs to be structured in a formal manner and addressed critically.

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WIL is included in the curriculum of different courses, for example, the Interior Design programme. When establishing a new management model for WIL for the Interior Design qualification, one needs to start with a thorough investigation into the design, nature and teaching process that feeds back into the interior design industry.

Wilson (1997:4) stated in his publication that when creating and initiating a management model for the WIL programme, each of the following norms must form part of the new programme management model:

- The criteria for a successful model must take the vision, mission and goals of the institution into consideration.
- A successful model must have clear, broadly accepted and attainable education enhancing objectives, learning goals and outcomes.
- The model must be adaptable to the character of the institution, department and programme.

The importance of WIL (Kolb, 1984) and skills development is evident throughout human development. 'Practice makes perfect' is apparent in the progress of both older and younger civilisations. Higher and tertiary education in South Africa is the preparation phase for life and work in an advanced economy. The modern economy requires skilled interior designers who are well-equipped for the work environment.

Herman Schneider developed co-operative educational curricula, and during his teaching career, he realised that the theoretical curriculum is absorbed much more readily by the students when backed by practical exercises and practical experience (Schneider, as quoted by Cates & Jones, 1999).

A gradual advancement in practical work is achieved through the application of the principles and training of the theory and practice of design. As highlighted by Weisz and Smith, WIL programmes, or similar programmes, are often underpinned pedagogically by the work of educationalists, such as Dewey. He expressed the belief that through experience, the theoretical education becomes much clearer (Dewey, 1938:25 in Weisz & Smith, 2005:606).

The expectancy-value methodology evolved from Atkinson's thoughts on achievement motivation.

In this methodology, that is, expectancy together with task value, the student is deemed to proceed to project commitment and subsequently, to the resulting achievement (Cates & Jones, 1999). In the design of the management model for WIL for the Interior Design qualification, student motivation will form part of the model to encourage the students to learn, proceed with projects, achieve positive results and attain self-commitment.

Of all the learning theories, Kolb's (1984) may be the most relevant to WIL because he describes the four stages that students undergo continuously in the learning process:

- Creative experience
- Observation and reflection
- Formation of abstract concepts
- Hypothesis to be tested in the future.

With a better understanding of how Interior Design students learn, and the important role that WIL plays in Interior Design students' learning, the focus of the new management model for WIL for the Interior Design qualification must be linked to an academic methodology, in order to put these theories into practice.

2. Literature review

According to Higgs (2010:141), WIL has a relatively long history across a range of disciplines. The World Association for Co-operative Education (WACE, 2010) defines WIL as combining 'professional work experience with classroom studies in many forms, including: Research, Internships, Study Abroad, Services, Attachments, Co-operative or Professional Experience'. Importantly, it acknowledges the desirability of **combining**, or in more formal terms, **integrating** classroom studies with professional work experience. To understand the different ways of learning through WIL and to construct a management model for WIL, a number of universities were investigated and explored. The information obtained contributed to the development of a management model for WIL for the Interior Design qualification at Tshwane University of Technology (TUT).

According to the Council of Higher Education (CHE), (2011:65), lecturers who implement WIL in their programmes are responsible for preparation issues and must determine the intensity and nature of commitment. 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. In each diverse curricular modality, the management roles and implementation of the WIL programme are different. However, they are extremely significant for student employability and helpful for students to gain access to decent work related to their disciplines.

Unfortunately, the practical implementation of the strategy over the past few years has suffered due to the merging of a number of technikons with very different traditions in respect of cooperative education. In this study, new principles are borne in mind for Interior Design students to gain access to decent work, since they have the necessary Interior Design skills. These successes underline the importance of a management model which is aligned to the new WIL strategy of TUT (Tshwane University of Technology, 2012, TUT Strategy for co-operative education, October 2012).

According to the International Labour Organisation (ILO) in the Employability Improvement Training Course at TUT, from 2012, the position of students in the workplace has changed. There is little work available, and import and export costs are extremely high at present. The major requirement of a workable and capable labour force in all the sectors of the industry emphasises the call for on-going teaching and training, in order for personnel to be prepared for the global economy. Employers request that the labour force for the 21st century has the information, technological skills and 'soft-skills' to function successfully in the workplace.

To maintain this intensity of competitiveness, employees need to be permanent learners who strive to enhance their comprehension and ensure their skills are current. This possession of skills is necessary to be seen as employable and to have access to a job with decent remuneration.

To realise the contribution, a national and a broad literature study on the basic principles and nature of different work integrated business models was carried out. The study included concepts, benefits

and the aim and purpose of the WIL models, as well as the role that WIL plays, especially in the design of a new management model.

According to CHE (2011:59), lecturers who use WIL in their Interior Design programmes are liable for the implementation of WIL, the value accredited to WIL and the number of credits it represents, the monitoring of progress, assessing the work submitted as evidence and evaluating the WIL programme. All of the abovementioned aspects form part of the management of WIL in South African universities. The management roles in the curricular modalities are different.

A comparative literature study was carried out between South African universities and universities in Europe, America, Australia and Canada. The aim was to better understand the management model for the WIL programme, the process of WIL and how the latter fitted into their design programme and contributed to the new management model.

3. Research methodology

A comprehensive literature study was performed to find answers to the stated research question and to identify areas to be investigated in the comparison between universities in South Africa and those abroad. A quantitative research approach was undertaken by using certain areas of interest as a research instrument to collect data from the abovementioned universities. The purpose of this research was to compare the views of different management models for WIL and establish the current status of WIL in South Africa. From the literature study, certain information on the different purposes of WIL regarding Interior Design was investigated, in order to design the new management model.

3.1 Measurement

The following areas of interest were researched:

- the curriculum for WIL in the Interior Design programme
- the duration of the WIL period
- the level of WIL in the programme
- skills that students need prior to WIL
- the process: students being prepared, placed, monitored, assessed and debriefed for WIL
- the management of WIL in the programme.

The information obtained was communicated directly with TUT via the Internet, telephonically via Skype, through personal contact between the staff of the universities or the Head of the Department of Interior Design. All participants from the national universities and universities abroad were asked the same questions. Nevertheless, the answers differed from university to university.

3.2 Population and sample

The samples consisted of the heads of the Interior Design departments in government-subsidised higher education institutions in South Africa. The samples also included universities and learning sites in Europe, Australia, America and Canada. Sample sizes were determined according to the availability of persons in the respective target populations.

Samples were taken from the heads of the Interior Design departments of the following selected universities:

- Lessius University College, Mechelen, Belgium
- Royal Melbourne Institute of Technology (RMIT University), Australia
- Columbus College of Art and Design (CCAD), America
- Ryerson University: Ryerson School of Interior Design (RSID), Canada
- Mount Royal University, Canada
- Tshwane University of Technology (TUT), South Africa
- Durban University of Technology (DUT), South Africa
- Cape Peninsula University of Technology (CPUT), South Africa
- University of Johannesburg (UJ), South Africa.

3.3 Statistical analysis

Data was collected from one-on-one discussions with participants, e-mail conversations on WIL and information received from questionnaires that were sent to all the universities, which gave a grounding of WIL in their Interior Design programme. This ensured that all the information from the different universities was built into the new WIL management model. The authentic feedback from WIL colleagues was the motivation for working with diverse persons from South Africa and abroad. After explaining the process, all participants in the research discussion were issued with close-ended questions, to which they responded with innovative ideas and useful information.

A comparison between the national universities and universities abroad was performed, as well as a comparison between universities in South Africa.

3.4 Response

Nine questionnaires were distributed to the heads of the Interior Design departments in nine universities. A total of nine completed questionnaires were returned (100%).

4. Results

4.1 Comparison of areas of interest between universities in South Africa and universities abroad

To compare the Interior Design programme management model firstly, among universities in South Africa and secondly, among universities abroad, the following aspects of the respective models will be illustrated in table format:

- the curriculum for WIL in the Interior Design programme
- the duration of the WIL period
- the level of WIL in the programme
- skills students need prior to WIL
- the process: students being prepared, placed, monitored, assessed and debriefed for WIL
- managing WIL in the programme.

The aim of this comparison is to better understand the WIL process, how the WIL process fits into the Interior Design programme and the collaboration with the active interior design industry.

Comparison: Universities in South Africa

The comparison in the following table is a summary of the questions from the questionnaires.

TABLE 1: WIL model comparison – universities in South Africa

FIELD OF COMPARISON	TSHWANE UNIVERSITY OF TECHNOLOGY (TUT)		DURBAN UNIVERSITY OF TECHNOLOGY (DUT)		CAPE PENINSULA UNIVERSITY OF TECHNOLOGY (CPUT)		UNIVERSITY OF JOHANNES-BURG (UJ)	
University has a compulsory WIL programme	✓		✓		✓			X
Student must register for the WIL programme	✓		✓		✓			X
The level for WIL– third year	✓		✓		✓		✓	
The level for WIL– second year		X	✓		✓		✓	
The level for WIL– first year		X		X		X		X
Participating company must be approved	✓		✓		✓		✓	
Students are responsible for their placement	✓		✓		✓		✓	
WIL duration– two weeks = 80 hours		X	✓			X	✓	
WIL duration– six weeks = 240 hours	✓			X	✓			X
A preparation period prior to WIL	✓			X		X		X
WIL in-house training		X		X	✓			X
WIL industry training	✓		✓		✓		✓	
WIL simulation training		X		X		X		X
WIL guide on projects to be updated and signed	✓		✓		✓			X
Supervisor assessment in WIL guide	✓			X		X		X
Supervisor assessment confidential		X	✓		✓		✓	
University assessment of students/projects after WIL	✓		✓		✓			X
Debriefing after WIL	✓		✓		✓			X

FIELD OF COMPARISON	TSHWANE UNIVERSITY OF TECHNOLOGY (TUT)		DURBAN UNIVERSITY OF TECHNOLOGY (DUT)		CAPE PENINSULA UNIVERSITY OF TECHNOLOGY (CPUT)		UNIVERSITY OF JOHANNES-BURG (UJ)	
Submit evidence of practical work done during WIL	✓		✓		✓			X
WIL model is credit-bearing	✓		✓		✓			X
Results - percentage	✓		✓		✓			X
Results - pass/fail		X		X		X		X
Special skills other than design skills needed	✓		✓		✓		✓	

To understand the comparison of the table above, the following areas of interest will be compared and discussed:

The curriculum for WIL in the Interior Design programme (South Africa)

The only comprehensive university researched that places more emphasis on academic teaching and makes use of a WIL that is not compulsory is the University of Johannesburg (UJ). UJ students are encouraged to work part-time and when possible, to expand their knowledge and enhance their work-based skills in different industries and companies. The other universities (UOTs) have a compulsory WIL component in their curriculum with its own credit rating.

Duration of WIL period

The time duration of the WIL period differs from institution to institution. It also seems that assessment of the practical evidence, which the student must submit for the WIL co-ordinator to determine what has been achieved, during the WIL period, is not important.

At 50% of the universities, the duration of WIL is between six and seven weeks. This shows how important the workplace experience weighs towards the practical implementation of the classroom practice. Although the other 50% have a short period of exposure to the workplace, the time could be more intense or more focused on one or two major aspects of Interior Design. In all WIL cases, the simulation and design practice that the students experience cannot be rejected and will always form an integral part of the students' development.

The level for WIL

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. It is for these reasons that students insist on undertaking WIL during their 3rd year level, but outside the boundaries of the university.

Skills students need prior to WIL

As seen in Table 1 above, the comparison of the UOTs in South Africa is very much on par, and the need for skills development is a high priority. These universities collaborate with the industry to ensure that the WIL programmes are in place, and that the teaching and learning in the Interior Design programme is industry-compliant with related information and cutting-edge technology.

Managing WIL in the programme

Although all the institutions have a WIL component, each institution manages the WIL component in the programme in a different manner. In most cases, the WIL co-ordinator assigned to the WIL programme assists with the administration of the WIL component. The WIL co-ordinators are responsible for training, monitoring and assessing the students. After completing the documentation and placement, the students leave the institution for a period of two to seven weeks. Different stages of WIL take place in these time periods.

Three years of training now become a reality as the students are involved in the different facets of Interior Design. Even the students of the institution that does not have a compulsory WIL placement section in the programme insist on working for the industry on an ad hoc basis to hone their skills and gain first-hand experience.

The process: students being prepared, placed, monitored, assessed and debriefed for WIL

Some of the universities do not have a specific preparation period that is set aside for training and preparing students for the workplace. In some institutions the process of preparation forms part of the professional design practice curriculum, to avoid the programme duplicating information sessions. The placement aspect in all universities is controlled by the WIL co-ordinator in the department.

All the universities researched make use of a WIL guide, a supervisor who manages the WIL period in the workplace and provides an assessment and feedback to the WIL co-ordinator. Thereafter, a debriefing and evaluation session with the WIL co-ordinator takes place and the students return to their allocated institutions.

Comparison - universities abroad

The Interior Design sphere of comparison in the following table is compiled from the questions in the questionnaires.

Table 2: WIL model comparison - universities abroad

FIELD OF COMPARISON	LESSIUS UNIVERSITY COLLEGE, BELGIUM		ROYAL MELBOURNE INSTITUTE OF TECHNO-LOGY		COLUMBUS COLLEGE OF ART AND DESIGN		RYERSON SCHOOL OF INTERIOR DESIGN		MOUNT ROYAL UNIVERSITY DEPT OF INTERIOR DESIGN AND ART HISTORY	
University has a compulsory WIL programme	✓		✓		✓		✓		✓	
Students must register for the WIL programme	✓		✓		✓		✓		✓	
The level for WIL– third year	✓		✓		✓		✓		✓	
The level for WIL– second year	✓		✓		✓			X	✓	
The level for WIL– first year		X		X		X		X		X
Participating company must be approved		X	✓		✓		✓		✓	
Students are responsible for their placement		X	✓		✓		✓		✓	
WIL duration– two weeks = 80 hours		X		X	✓			X		X
WIL duration– six weeks = 240 hours	✓			X		X	✓		✓	
WIL duration– 12 weeks = 480 hours	✓		✓			X		X		X
WIL duration – months up to a year		X	✓			X		X		X
Student undergo a preparation period prior to WIL		X		X	✓		✓		✓	
WIL in-house training	✓		✓			X		X		X
WIL industry training	✓		✓		✓		✓		✓	
WIL simulation training	✓		✓			X		X		X
WIL guide on projects to be updated and signed		X	✓			X		X		X
Supervisor assessment in WIL guide		X		X		X		X		X
Supervisor assessment confidential		X		X	✓		✓			X
University assessment of students/projects after WIL	✓		✓		✓		✓		✓	

FIELD OF COMPARISON	LESSIUS UNIVERSITY COLLEGE, BELGIUM		ROYAL MELBOURNE INSTITUTE OF TECHNO-LOGY		COLUMBUS COLLEGE OF ART AND DESIGN		RYERSON SCHOOL OF INTERIOR DESIGN		MOUNT ROYAL UNIVERSITY DEPT OF INTERIOR DESIGN AND ART HISTORY	
Debriefing done by students after WIL	✓		✓			X	✓		✓	
Submit evidence of practical work		X		X		X	✓		✓	
WIL model is credit-bearing		X	✓		✓		✓		✓	
Results - percentage	✓		✓		✓		✓		✓	
Results - pass/fail		X		X		X		X		X
Special skills other than design skills needed		X		X		X		X		X

To understand the comparison in the table above, the following areas of interest will be compared and discussed:

The curriculum for WIL in the Interior Design programme

Lessius University College started WIL a few years ago and asked companies to select students to shadow the Interior Designers for a period of six weeks or longer. They also updated the students on design trends and technology by implementing real-life projects as part of the practical syllabus.

All universities in Australia, America and Canada have the WIL programme as a credit-bearing module, but most European institutions include WIL as part of an already existing module in the curriculum.

The duration of the WIL period

All the universities make use of an individual evaluation method and an assessment method. They offer students an opportunity to present their findings to their peers and share their experience. The debriefing process is very important in most of the universities. However, Columbus College does not require evidence and does not assess work done during a two-week period of internship (WIL). Although all the universities collaborate with the industry, they are still in the early stages of developing a working model and system for WIL.

The level of WIL in the programme

Table 2 shows the comparison of the WIL model and the implementation of WIL in the Interior Design programme between universities in Europe, America, Canada and Australia. The table shows a few differences in the implementation process.

Skills students need prior to WIL

The research showed that the students at none of the institutions needed different skills other than the design and technical skills to which they had already been exposed.

Managing WIL in the programme

According to the information in Table 1.2, it is clear that the universities abroad view WIL very seriously. All students must register for the WIL component at the beginning of the year or study period. All students must find their own company or workplace to complete their WIL, with the exception of Lessius. Belgium has a well-defined Interior Design industry that works in close relationship with the institution and carries out its own selection of students from the institution, thereby, ensuring a workplace for each student in a company.

Lessius does not use WIL guides. Supervisors send assessments of the students to the co-ordinators in the departments where the results from the WIL training period are calculated as part of the credits needed for completion of the qualification. In some cases, the students must return the evidence of their work done during WIL, and this evaluated work accounts for the credits needed for the qualification.

The process: students being prepared, placed, monitored, assessed and debriefed for WIL

Although 50% of the institutions have a preparation period, the other 50% feel it is not necessary. Placement, however, occurs in co-operation with the three partners – the institution, the student and the industry. The student is expected to find a placement, and with the assistance of the co-ordinators in the departments, the placement is finalised.

In all the universities researched abroad, the Career Service Department available at the institution collaborates on work placement with the co-ordinators in the departments. The supervisors allocated to assist the students during WIL, assess the students and forward a confidential assessment to the departmental WIL co-ordinator. When the students return to the university, the work brought back from the company is marked as evidence towards the credits needed for their qualification.

Comparison – universities in South Africa and universities abroad

The Interior Design sphere of comparison in the following table is taken from the questions in the questionnaires.

Table 3: WIL model comparison between universities in South Africa and abroad

FIELD OF COMPARISON	SOUTH AFRICAN UNIVERSITIES		UNIVERSITIES ABROAD	
Compulsory WIL programme	✓		✓	
Students must register for the WIL programme	✓		✓	
The level for WIL– third year	✓		✓	
The level for WIL– second year	✓		✓	
The level for WIL– first year		X		X
Participating company must be approved	✓		✓	
Students are responsible for their placement	✓		✓	
WIL duration– two weeks = 80 hours	✓			✓
WIL duration– six weeks = 240 hours	✓			X
WIL duration– 12 weeks = 480 hours		X		X
WIL duration – months up to a year		X		X
Preparation period prior to WIL	✓		✓	X
WIL in-house training		X	✓	X
WIL industry training	✓		✓	
WIL simulation training	✓		✓	X
WIL guide for practical projects to be updated and signed	✓			X
Supervisor assessment in WIL guide		X		X
Supervisor assessment confidential	✓		✓	X
Assessment of students/projects after WIL	✓		✓	
Debriefing done by students after WIL	✓		✓	
Submit evidence of practical work	✓			X
WIL model is credit-bearing	✓		✓	
Results - percentage	✓		✓	
Results - pass/fail		X		X
Special skills other than design skills needed	✓			X

To understand the comparison between universities in South Africa and those abroad for the Interior Design WIL programme, the following areas of interest will be compared and discussed:

The curriculum for WIL in the Interior Design programme

According to Table 1.3, it is clear that all the universities are determined to keep their WIL curriculum as part of the career-orientated focus. It is also a well-known fact that all industries need well-skilled workers with new knowledge. The main feature for such workers would be their ability

to apply trans-disciplinary knowledge in many different ways in order to solve a problem. This skill is applicable to all workers, regardless in which part of the world they reside.

The duration of the WIL period

The WIL period varies between two and six weeks per annum in both South African universities and institutions abroad. Although the universities abroad apply WIL in their Interior Design courses, the connection and co-operation between the industry and the education sector is very close.

The South African educational institutions still have a divide between themselves and the industry, and this must be addressed. The industry should play a more important role in the education, training, curriculum content and development of young Interior Designers.

The duration of the WIL period is not a consideration because all practical projects, assignments, lectures, research, teaching and learning form a collateral part of WIL, with the emphasis on problem-solving skills and cognitive application.

The level of WIL in the programme

Table 3 demonstrates the areas (yellow) in which South African universities differ from those abroad in their implementation and execution of WIL. In many of the areas, people understand the important role WIL plays in the development of the student and former employee.

The lack of presented evidence or the need for WIL guides in the universities abroad shows a more mature outlook and demonstrates confidence in both the industry and the students. This is surely one of the areas in which South Africa still needs to pay attention, in order to certify the real value of WIL through the evidence of work and a well-kept WIL guide signed by the workplace supervisor. It is only through the supervisor's evaluation, the discussion and logging of work done in the WIL guide, as well as the real evidence of work submitted to the WIL co-ordinator, that the value of the WIL model will be recognised.

Skills students need prior to WIL

The three areas in which a difference is noted between South African universities and universities abroad are the necessity for a WIL guide, the presentation of evidence that forms the assessment foundation and the extra or expanded skills that students need in the workplace for completing WIL.

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. The different design and technical skills that have been developed during the tertiary education period seem to suffice, but according to the industry, material application and manufacturing knowledge still requires attention.

Managing WIL in the programme

Research shows that all Interior Design students must register for the WIL component at the beginning of the academic year. During their senior year of study, students find their ultimate placement. This process is monitored by the co-ordinator in the relevant department in South Africa

and by the Career Service Department abroad. In both cases, the co-ordinators play a significant role in the placement by compiling the contract between the student and industry, monitoring and providing feedback from the industry or supervisor. They co-ordinate the assessment between the university and the student; and, in the workplace, between the supervisor and the student. Their role includes debriefing the students and co-ordinating evidence from the WIL period, as well as the evaluation and final assessment, the publication of results and finally, the administrative tasking for the years thereafter.

The process: students being prepared, placed, monitored, assessed and debriefed for WIL

Research and information gathered (Table 1.3) show that students undergo a certain amount of preparation before they depart for WIL. At each university, the main developmental skills namely, emotional, oral, communication, written and design skills must be in place. These are interwoven in the different subjects of the Interior Design qualification.

5. Conclusion

According to the CHE (2011:65), it should be a concern of university lecturers to ensure that the students who graduate from their programmes are prepared for the world in which they will live and work. The integration of professional and academic skills in the curriculum will go a long way towards addressing this requirement.

University lecturers should carefully consider the relationship between the workplace and the university. A university education is not about job training, and the WIL curriculum should not be dictated to by economic or narrow workplace interests. Instead, the university must be (as it has always been) responsive to society and the needs of the students, in order for the students to become productive members of society. In addition, part of the mission of higher education is to look beyond immediate problems and prepare students to change and improve existing structures, not merely to adapt to the world as they find it.

The information received from each of the abovementioned universities confirms the valuable contribution that WIL makes to every student who graduates, providing them with employability skills and well-developed self-confidence.

The results of the comparison between the management models of WIL for the Interior Design qualification in South African universities and universities abroad act as recommendations for the development of a management model of WIL for the Interior Design qualification.

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VIEWS OF INFORMAL WORK-BASED LEARNERS DURING THE ACQUISITION OF VOCATIONAL SKILLS IN ECONOMICALLY DEPRIVED SUBURBAN SETTINGS IN MOZAMBIQUE

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Abstract

This research article reports on the phenomenon of casual learning that takes place in the world of work as a stage or point for developing the necessary skills in relation to multiple professions in the industry in Mozambique. In terms of an ontological perspective, workplace, informal learning consists of an acquisition process of knowing that is deemed to be dynamic and flexible, which can be face-to-face, at a distance, initial or in-service refresher programmes in terms of knowledge and competencies in a given profession. In terms of delivery modes, work-place informal learning may take the form of one single training session, 'know-how' direct transfer or master training by multiple providers in partnership, not learner-centred nor teacher-centred (Pacheco 2009). As the debate on work-based learning continues, it is portrayed as the kind of learning which happens informally in the world of work or out-of-work learning when learning is learner-controlled and self-directed (Singo & Da Costa 2013). The first work-based learning systems stem from a century ago when artisans supervised their learners on how to do business. This was cheap labour in exchange for learning and usually the youth underwent a series or cycles of learning under a master's supervision. Wedekind (2013) argues however that girls/women were put in separate learning settings where they learnt needlework and so forth. Historically, work-based learning in

Mozambique was conducted through professions that were linked to enhancing families' income for their sons' or daughters' work-based learning, which were mainly face-to-face. Modernization has brought about changes in delivery of the informal work-based learning of a given profession; i.e., distance learning (60s and 70s), open learning at a distance, and from the 80s, e-learning (through use of online learning platforms) has been widely used as a tool and/or methodology for a formal work-based learning. Formal work-based learning is structured according to the profession learners wish to follow in order to acquire qualifications accredited by the National Qualification Framework (NQF). This study discusses how providers and learners at informal work-based learning settings interact in the light of scarcity of formal work-based learning opportunities, in professions such as carpentry, auto-mechanics and informatics among others. For a better understanding of this phenomenon, the study used a mixed methods approach by administering 115 questionnaires and undertaking 12 semi-structured interviews with artisans and their learners (apprentices). The emerging results show informal work-based learning as conceptually linked to (a) self-financing; (b) spontaneity; (c) hidden curriculum dependent; (d) interchangeable delivery mode; and (e) goal-oriented. The study indicates that a correlation between variables exists and a model is proposed. Thus, informal work-based learning is a route often used where learners are most in need of helping

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their parents and families in economically deprived settings, and it is also seen as a way of addressing the lack of formal work-based learning opportunities which are relevant to the world of work. The immediate implication is the need to develop, recognise and accredit informal work-based learning according to NQF specifications.

1. Introduction

This study aims to explore the phenomenon of workplace informal learning that is not actively organised yet grounded and demand-driven in respect of multiple professions in the world of work. In Mozambique, the system of informal apprenticeship is not new. Concepts of workplace informal learning, theoretically speaking, are difficult to define and grasp. For example, Eraut (1994) states that 'learning happens on a 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'. 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.

In terms of formal learning, The National Institute of Vocational Training and Employment (INFPTE) recently (2012) joined the City & Guilds ISO 9000 certification that requires broad and deep curriculum reform that will facilitate the learners' skill gap training deemed necessary to meet the industry needs. Another example of good practice in formal learning at workplaces is being undertaken by The Mozambique Aluminium Company (MOZAL): they pursue ways of outsourcing the training of its employees through a certified technical and vocational institution offering tailor-made/customized forms of training activities to meet the needs of the processes of production of aluminium, ensuring that it also meets international quality standards. It seems though, that neither the former nor the latter institution makes an effort to identify some of the opportunities that arise from workplace conditions to address training needs in the workplace through informal learning. In keeping with informal workplace learning opportunities, this study seeks to answer the following question: *How does workplace learning contribute to the development of vocational skills by apprentices of various occupations in the City of Maputo's economically deprived areas?*

2. Theoretical context: disruptions and possibilities

As noted earlier, the concepts of workplace learning are difficult to define due to the nature and operational complexities. Learning opportunities '…vary strongly among apprentices and workplaces due to a combination of structural, cultural and pedagogical factors' (Onstenk, 2013:87). One ontological description that can be used for now is: 'workplace learning encompasses the acquisition of knowledge and is seen to be dynamic and [of a] flexible nature; which can be taught through distance or face-to-face modes; and could include initial or refresher skills courses in certain professions; which are sometimes performed only once, or a number of times through direct transfer of 'know-how'; either by a model of cascading knowledge or through 'knowledge transfer' provided by the artisan based on a relationship between the artisan and apprentice, not centred on the learner or the teacher' (Pacheco, 2009).

It seems reasonable to acknowledge that workplace learning opportunities are 'often not highly conscious, but occurs haphazardly and [is] influenced by chance […and understood as…] opportunistic and mindful learning [which] is not guided by learning objectives but by

developmental work objectives' (Langer, 1997 & Onstenk, 2013) while performing activities and participating in a community of practice. Lave and Wenger (1991), in their apprenticeship learning theory concerning apprentice learning pathways, show that 'apprentices will start their learning trajectories [to become] skilled workers by taking part in a practice as legitimate peripheral participants'. Pickerden (2004 *apud* Singo and Da Costa, 2013) mentioned that informal learning can take place in the workplace informally, viz-à-vis, out-of-work in which the learner controls his/her learning.

As far as the workplace learning possibilities are concerned, Billett (2002) sketches out a platform in which learning takes place, asserting that 'individual agency always shapes what constitutes, through workplace 'affordance', an invitation to participate in learning' which depends largely on structures, norms, values and practices within workplaces. Onstenk (2013:87) provides a more incisive definition of these workplace learning possibilities, when he views them as a kind of learning in apprenticeships that can be seen as learning that is situated and occurs mainly through processes of dealing with work and core occupational problems. Central to solutions for these fundamental problems are 'conditions of the workplace, both with regard to work content, workplace culture, as well as [indirect] guidance by trainers' (Ibid. 2013:87).

There are indeed issues arising from implementation of workplace learning opportunities and possibilities that seem to be twofold: *(i)* lack of deep learning realization by apprentice, *(ii)*school setting which does not effectively capture workplace learning experiences (Poortman, 2007). This adds to what Lolwana's (2013) study on the South African apprenticeship system reveals when she indicates that 'public colleges are taking a very small number of students for the apprenticeship stream and in fewer areas of training, as their purpose has long been redirected somewhere else'. She also points out that privately owned training institutions carry out their own aggressive skills gap practical training aimed at their production needs. On the other hand, as Fuller & Unwin (2003) cautioned, most of the so-called 'natural' workplaces stand out as restricted apprenticeships because they lack learning opportunities and guidance. As a result, there is a flourishing of experiments which are brought to the fore with new models of apprenticeships. Zitter & Hoeve
(2012) suggest that those initiatives mostly encapsulate 'hybrid' learning places consisting of both theoretical and practical learning activities.

Historically, workplace learning emanates from earlier forms of the 'apprenticeship system' that developed hundreds of years ago, when young apprentices worked under supervision of a master craftsman to learn. This was a cheap form of labour in exchange for learning. Separately, women/girls were taught needlework and basketry (DoL 2 n.d. cited in WEDEKIND 2013). Within the Southern African region, the apprenticeship was a system introduced in 1775 to allow slave owners to 'apprentice' the children of male slaves and free Khoisan or Hottentot women till their 25th year. In South Africa it was in fact linked directly to the system of slavery, rather than being an importation of the 'middle ages' European tradition, mainly 'orchestrated' by Dutch traders after
1652.

In Mozambique, the workplace learning history for certain professions is officially attributed to the correspondence studies during the colonial past (1960 and 70s) and post-independence (80s till now), in the form of open distance learning programmes run by Ministry of Education (MINED) and the Catholic University (UCM) and the Universidade Pedagógica's *e*-learning (Moodle platform).

Informal learning takes a name as the profession that the student intends to follow to obtain a qualification certified and sometimes not accredited by the National Qualifications Framework (QNF). The outskirts of Maputo witnesses a proliferation of workplace informal learning apprenticeships due to the lack of formal opportunities, especially in courses in carpentry, automotive studies and computing/ICT, involving youth and in some cases, children.

At this time it is worth reminding ourselves that workplace learning could be seen as a kind of learning that '(...) occurs at work, formally or informally', vis-à-vis outside the workplace with a learning program designed and approved by employer to meet their business needs, improving the practice (PICKERDEN, 2004). However, OCDE (2010) defines informal learning as 'not organized type of learning, [not] guided by a rigid curriculum, [and] it is experimental and spontaneous.' There is yet a prevailing ambivalence between formal and informal learning, while many studies such DALE & BELL's (1999) where they conceptualize workplace informal learning as learning that 'takes place in the context of work, and relates to the individual's performance at work and/or their employability, and that is not formally organized in a form of a programme or curriculum by the employer' (ibid.). Billet (2001) adds that the workplace is the only or the most viable place to develop professional practice.

From apprentices' viewpoint, the environment for development of professional practice is a contributing factor for their learning experiences. PICKERDEN (2004) suggests that workplace (informal) learning is within the control of the apprentice. Workplace informal learning is dependent on the fact whether the learner has control over what you learn (self-learning), 'If learners know that they want to learn, decide how to do it , when and where to learn, and decide for them themselves whether they have learned, that falls under this definition of informal learning' (ibid.). The CULLEN Report (2000) then proposes four key dimensions defining informal learning: *(i) Domain* - the environment in which learning is considered necessary by the student; *(ii) self-learning or community educational activities* , *(iii)* the *scheme of learning-teaching process and features*-how it originates, and *(iv)what the learner does*.

The CULLEN research study reflects only a general workplace informal learning in community-based groups that have nothing to do with the acquisition of technical skills. Livingstone (2007) warns that 'in the light of the general conceptual confusion, various measures, and very limited amount of comparative data, the research knowledge about the extent, processes, content, results and trends [of] learning and informal training remains very poorly studied' (p.218), albeit a viable field of knowledge generation and skills development.

3. Methods

The present study takes an exploratory approach that is aimed at describing the views workplace apprentices hold when developing their professional skills. Thus, it employs a qualitative and quantitative methodology. The study used a mixed methods approach by administering 115 questionnaires and undertaking 12 semi-structured interviews with artisans and apprentices in automotive, carpentry and computing/ICT. For checking consistency of the scale of 25 items, Cronbach's alpha coefficient is 0.54 % was used, which assisted with the data analysis.

4. Results

The results of the empirical study reveal five emerging categories: Spontaneity; self-financing; hidden curriculum dependence; delivery modes; and certain goals-oriented.

Spontaneity of workplace learning

Emerging results, respondents claim that:

"...***I just look for jobs*** and began to learn"(R1)

"***My father sent me*** into this workshop because he knows the master" (R10) " I've been ***looking for any job and suddenly I found it*** […] to learn anything " (R7).

A critical look at the dimensions of this category, learning emerges 'by chance', it is 'casual', it comes 'by surprise', and at times, responds to 'family pressure'. The Da Costa & Singos' (2013) study has shown that between employee/employer and the apprentice/master there should be a 'contract' on the needs of informal learning. BARNETT (1999) suggests that this form of learning falls in the category of informal organizational learning that occurs between colleagues: for example by having a simple discussion with colleagues to test the validity of new ideas, and then sharing that knowledge with others, so that you can convert the idea of an individual's learning to benefits for everyone within the organization.

Self-financing of workplace learning

The data show that informal learning is primarily self-financed, judging from of the respondents' narratives:

"I do not pay anything ..." (R6)

"What the master gets, ***he gives me little*** " (R10)

"The master gives me part of ***the money we earn every day***" (R2)
"I only come to learn , ***is not to make lots of money***" (R8).

In this category it should be noted that learners are oriented mainly on learning the profession despite the financial implications. Informal learning is funded either by the employer or by the student.

Hidden curriculum and 'syllabus' dependence

About the curriculum and syllabus, the data show:

" Curriculum? No... "(R12)

" We only have ***tools***. We got to ***know each key*** " (R10)
"We have no programme " (R4)

"They just tell us what to do , ***it's not like a school*** " (R7) .

The majority of respondents may be unaware of curriculum provisions; i.e. recognised training. Being an informal type of learning it is not surprising that masters would only rely on the 'learning resources'(tools) to guide the learners in their practice. With a rapidly changing society, the best curriculum / 'syllabus' is one that helps students develop their ability to learn, to think critically, to

adapt to rapid changes in technology, and to gain some knowledge of their later work environment (Cantor, 1989) in a community of practice.

Interchangeable delivery modes of workplace learning

The system of provision of informal learning varies according to respondents' stories:

"I learn from my master and friends ***here at workshop"*** (R8)
"The ***master shows how it's done*** and we learn. So ***he expects us to do it alone*** later on" (R9).
"***We work and learn new things*** here in the workshop itself" (R3).

These results have to do with the ' informal learning in the workplace ', that learning itself is a face-to-face 'demonstration' and the learner 'constructs his/her own knowledge and know-how'. Learning of 'new things' can also mean 'learning by discovery' which accrues to the apprentice's skills and knowledge acquisition in irregular patterns in space and time, and at times such learning takes place alone (self-taught) (*cf.* Livingstone (2007).

Certain goals-oriented workplace learning

On the ultimate purpose of workplace learning, the respondents expressed the following:

"...***Learn to do something*** and ***help at home***" (R10)
"I'm learning because ***I have been told to come here*** (...) by ***my parents***" (R8)
"I stopped studying long ago, that's why I'm here to learn and ***make money***" (R3)
"Because of poverty I had to come here to see if I can learn and ***help my family***" (R5).

Worth noting is that learners have clear ideas of the goals and aims as to why they learn: development of 'skills' that help them to professionally 'navigate' the world of work. For others, it meets their social imperatives (poverty mitigation and family) that lead to 'making money'. However, Smith (2012) cautions that workplace learning environments may or may not be in line with the acquisition of school goals (as important as they are), but they are consistent with the broader and deeper educational goals for personal development, the ability to analyse and critique. To confirm and to check whether the above results are associated to each other, correlation analysis was then undertaken.

5. Correlation between the variables

The Pearson correlation test (Pearson Product Moment Correlation) was employed to test our initial hypotheses. Significant positive and negative relationships were found ($p > .05$) between the dependent variables (see Appendix 1 attached). There is a correlation between the following dimensions: 'Master says orally what I should do' and 'looking for masters' (.67); 'Master evaluates me know whether or not the profession' and 'What I can afford is little to be the apprentice' (.72); 'I learn at the place of employment' and 'What I can afford is little to be the apprentice' (.52); 'Having money to self-sustaining ' and ' What I can afford is little to be the apprentice' (.66) , 'The teacher evaluates me know whether or not the profession' (.58); 'Master demonstrates (steps) how to do what I need to learn' and 'I learn by doing' (.78); and 'personal satisfaction' and 'Master demonstrates (steps) how to do what needs to learn' (.52) and 'Mastering the profession which would never be in formal learning' (.96). For Cohen (2000, p.202, citing Borg 1963), in interpreting

the correlation coefficients, the correlation is between .35 and .65 is statistically significant and if it reaches .40, then is possible to make crude predictions of groups using the technique of regression.

6. The model

The analysis of the influence that the control variables (intervening variables) exert on dependent variables was conducted using multiple regression analysis. For the proposed model, the multiple linear equation employed predicts that 'Mastering the profession which would never be in formal learning'; 'the master tells me what should be done', 'Master assesses if I know or not know the job', 'I learn by doing, I learn at workplace', 'To make money for self-support', 'What I earn is not enough to pay my apprenticeship', 'The master shows (the steps) how to do what I ought to learn', 'I went after the masters', statistically exert and impacts on the 'Personal Satisfaction' (dependent variable), as the table 1 below illustrates.

Table 1: Regression equation

Model summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.973[a]	.947	.852	.34648	.947	9.934	9	5	.011

a. Predictors: (Constant), 'Mastering the profession which would never get in formal learning'; 'the master tells me what should be done', 'Master assesses if I know or not know the job', 'I learn by doing, I learn at workplace', 'To make money for self-support', 'What I earn is not enough to pay my apprenticeship', 'The master shows (the steps) how to do what I ought to learn', 'I went after the masters'
b. Dependent variable: Personal satisfaction

In this model, the independent variables together explain (significant amounts of) 94.7 percent of the variance in the variable ' personal satisfaction '. The result shows that ANOVA $F(9,5) = 9.934$; $p < 0.05$. The model (see Appendix 2 coefficients) shows also that the path that has the most impact is related to the following equation:

Model 10: Personal satisfaction score = 0.861 + 0.801 'Mastering the profession which would never be in formal learning'

Therefore, workplace learning to develop professional skills 'dominate the profession [which one] would never get in formal learning', in the above model is shown to be the best predictor of 'personal satisfaction' and statistically significant, being $P < 0.05$.

7. Conclusions and implications

The present study aimed at studying the phenomenon of informal learning that takes place at the workplace, as a stage or point for developing necessary skills for the demands of multiple professions in Mozambique, more especially in those poverty stricken suburb settings of the City of Maputo. The apprenticeship systems were assessed through the views of respondents in automotive, carpentry and computing/ICT. In general, for all these occupational activities, workplace learning, from the apprentices' viewpoint, is one of the 'vehicles' through which the apprentice meets the demands of the required skills in the world of work.

In conclusion, it is worthy to note that the workplace learning comprises a choice 'by chance' of what is (to be) learned, intended or not to 'make money' and it is based on (not on a written)

curriculum that it is not like that in schools. It also worth concluding that the apprentice learns informally on the 'spot' through 'demonstration' and he/she builds his own knowledge and know-how, in 'preparation for living' (Smith, L.W.O, 1970). The study proposes a model, namely that: 'personal satisfaction' that is influenced by 'mastering the profession...'. The immediate implications emerging from the inductive and exploratory nature of the study, demands a more systematic study with a sizable target group. Policies for recognising the value and appropriateness of informal learning in Mozambique should be looked at. There is also a need to redesign the Mozambican Apprentice System (MAS) for rigorous accommodation of occupational activities in the NQF.

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Appendices

1. **Persons' Product-Moment Correlation (CORRELAÇÃO DE PEARSON)**

Variáveis		1	2	3	4	5	6	7	8	9	10	11	12	13
1. Procurei pelos mestres	Pearson Correlation	-.14	.24	.11										
	Sig. (2-tailed)	.62	.39	.71										
2. O que consigo é pouco para pagar o ser ser aprendiz	Pearson Correlation	-.33	.12	-.14	.36									
	Sig. (2-tailed)	.24	.66	.63	.19									
3. Faço dinheiro extra para pagar o ser aprendiz	Pearson Correlation	-.17	.45	.17	.42	-.08								
	Sig. (2-tailed)	.54	.09	.55	.12	.77								
4. O mestre diz oralmente o que se vai fazer	Pearson Correlation	-.33	.43	.34	.67 (**)	.11	.45							
	Sig. (2-tailed)	.23	.12	.22	.02	.72	.09							
5. O mestre me avalia, se sei ou não sei a profissão	Pearson Correlation	.16	.000	-.03	.14	-.72 (**)	-.14	-.09						
	Sig. (2-tailed)	.55	1.0	.92	.61	.01	.61	.74						
6. Aprendo no local de emprego	Pearson Correlation	.04	.08	.45	.13	-.52 (*)	.48	.17	.42					
	Sig. (2-tailed)	.88	.77	.09	.64	.05	.07	.55	.13					

Variáveis		1	2	3	4	5	6	7	8	9	10	11	12	13
7. Eu aprendo-fazendo	Pearson Correlation	-.06	.18	-.06	.05	.074	.16	.113	-.15	.06				
	Sig. (2-tailed)	.82	.52	.83	.86	.793	.56	.689	.61	.82				
8. Ter dinheiro para a auto-sustentação	Pearson Correlation	.00	.18	.36	.32	-.66 (**)	.00	.21	.58 (*)	.45	.09			
	Sig. (2-tailed)	1.0	.51	.19	.25	.01	1.0	.45	.02	.09	.75			
9. Mestre demonstra (os passos) como se faz o que devo aprender	Pearson Correlation	-.25	.39	-.29	.08	.12	.34	.27	-.11	.02	.78 (**)	.17		
	Sig. (2-tailed)	.31	.15	.29	.76	.68	.21	.32	.72	.94	.01	.53		
10. Dominar a profissão o que nunca seria na aprendizagem formal	Pearson Correlation	-.22	-.26	-.06	-.39	-.28	.00	.02	-.09	.13	.33	.35	.47	
	Sig. (2-tailed)	.43	.35	.82	.15	.31	1.00	.96	.75	.63	.21	.19	.08	
11. Satisfação pessoal	Pearson Correlation	-.10	-.14	-.08	.47	-.33	.00	-.06	-.05	.15	.38	.38	.52 (*)	.96 (**)
	Sig. (2-tailed)	.70	.62	.78	.07	.23	1.00	.83	.87	.59	.16	.16	.05	.01

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

2. Coefficients(a)

Model		Unstandardized Coefficients			Standardized Coefficients	t
		B	Std Error	Beta	t	Sig
1	(Constant)	.861	1.216		.708	.511
2	O mestre diz oralmente o que se vai fazer	-.020	.156	-.029	-.128	.903
3	Procurei pelos mestres	-.075	.147	-.118	-.513	.630
4	O mestre me avalia, se sei ou não sei a profissão	-.052	.156	-.068	-.332	.753
5	O que consigo é pouco para pagar o ser ser aprendiz	-.117	.176	-.136	-.666	.535
6	Aprendo no local de emprego	-.009	.096	-.012	-.091	.931
7	Ter dinheiro para a auto-sustentação	-.001	.229	-.001	-.003	.998
8	Mestre demonstra (os passos) como se faz o que devo aprender	.170	.192	.184	.882	.418
9	Eu aprendo-fazendo	-.008	.105	-.014	-.076	.942
10	Dominar a profissão o que nunca seria na aprendizagem formal	.801	.167	.787	4.792	.004

a Dependent Variable: **Satisfação pessoal**

WORKPLACE BASED EXPERIENCE (WBE) – PREPARING THE STUDENT FOR THE WORLD OF WORK

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Swiss South Africa Cooperation Initiative

Abstract

This paper discusses a pilot project aimed at the capacity building of Technical and Vocational Education and Training (TVET) colleges to introduce Workplace based experience (WBE) as part of the college programmes in keeping with the need to improve the relevance of programmes to industries and workplaces.

Through the implementation of the pilot, a number of positive outcomes emerged. It is clear that WBE can contribute towards improved retention and throughput of students as they become more motivated to learn once they have been exposed to authentic workplaces.

For college management, the most important positive outcome was the building of relationships with local businesses, while for the employers, the benefit is in getting to know what the college programmes entail, and in pre-screening possible new employees.

The paper ends with a list of critical factors for the successful implementation of WBE in the college sector.

1. Introduction

Technical and Vocational Education and Training (TVET) colleges in South Africa are in the midst of a critical and highly charged transition phase. Since its establishment in 2009, the Department of Higher Education and Training (DHET) has driven a three-pronged strategy for college transformation, including:

- Migration of colleges from the provincial Departments of Education to the DHET as of 1st April 2013, in accordance with the FET Colleges Amendment Act (Act 3 of 2012).

- Massive expansion of college enrolments towards the targets laid out in the *White Paper on Post-School Education and Training*, released in 2014.

- Phasing in a national turnaround strategy in 2013, aimed at improving the functionality of colleges and thereby improving student performance.

The interface of these three activities, while necessary, has created additional pressure on an already fragile sector.

This paper examines the implications of the college expansion trajectory. The paper will further explore the role SSACI is playing in terms of using Workplace based Experience (WBE) as a

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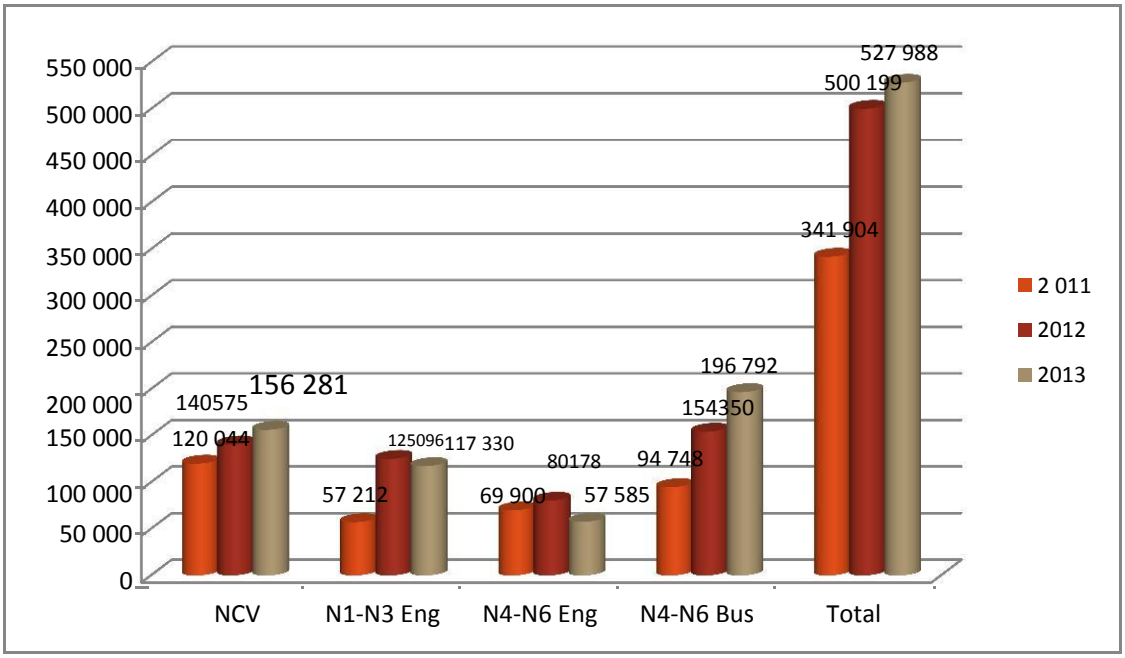
mechanism to better prepare the student for the world of work thereby alleviating some of the pressure on the TVET system.

The National Development Plan (2011) targeted 800'000 enrolments in TVET colleges by 2014. These targets were informed by the intended phasing out of the N-programmes and anticipation that there would be substantial growth in NCV enrolments. But the NCV has in fact realised little growth over the last few years, fluctuating between 120 000 and 140 000 students. Enrolment in the NCV in 2013 increased to 156'000, which seems to be associated with increased numbers of matriculants.

In N1-N3 Engineering programmes which traditionally served the apprenticeship systems, increased off a base of 57'000 in 2011 to 125 000 in 2012, dropping slightly to 117'000 in 2013 (Fig. 1). The N4-N6 experienced significant growth off a base of 163'000 in 2011 to 254'000 in 2013. A large part of this growth is in the Business Studies programmes (Fig.1). Thus, through the N programmes, the DHET has made progress towards achieving the targets laid out in the National Development Plan.

Figure 1: Enrolments 2011-2013



(Data extracted from DHET, TVET colleges Exam reports 2011, 2012 and 2013)

Since 2010, colleges have been given a clear instruction by the DHET to grow, with the caveat that this growth should be within their means, which has been met with varied responses. As depicted in Fig. 1, colleges have used the N-programmes as a basis to grow student numbers regardless of whether such programmes will lead to skills necessary for local employment opportunities. Furthermore, N-programmes require workplace-based experience to translate into full qualifications. But limited workplace opportunities are available to students in N-programmes, implying no route to qualification.

Table 1: Enrolment vs Retention NCV L2 –L4 (2011 -2012)

	2011			2012		
Level	**Enrolled**	**Wrote**	**% Retention**	**Enrolled**	**Wrote**	**% Retention**
Level 2	61,667	37,413	61	73044	38792	53
Level 3	29,983	21,946	73	28017	18305	65
Level 4	17,548	15,325	87	18607	15334	82

(Data extracted from DHET, TVET colleges Exam reports 2011 and 2012)

Table 1 indicates the inverse relationship between increased enrolment verses decreased retention, especially at NCV Level 2. Increased enrolment also has a negative impact on the certification rate. As Table 2 indicates, those provinces that increased their NCV Level 2 intake significantly from 2011 to 2012 had the adverse effect on their certification rate.

Table 2: NCV 2 Enrolment for certification vs Certification rate at province level (2011 -2012)

Province	2011		2012	
	Enrol	%Cert.	Enrol	%Cert.
EC	8406	44	9769	48
FS	2296	22	3116	27
GT	13292	38	14958	37
KZN	13834	41	17769	38
LP	7998	42	10034	36
MP	3232	59	3966	57
NC	1185	40	1474	42
NW	3774	54	3728	37
WC	7650	60	8230	62
NATIONAL	61667	45	73044	43

(Data extracted from DHET, TVET colleges Exam reports 2011 and 2012)

Expansion results in increased lecturer to student ratio, impacting on the quality of teaching and learning taking place in the classroom. This is evident from the comparison of selected subject results (Table 3) that performed worse in 2012 than in 2011.

Table 3: Comparison of selected Subject results (2011 – 2012)

	2011			2012		
Subject	**Wrote**	**Passed**	**% Pass**	**Wrote**	**Passed**	**% Pass**
Mathematics L2	22866	10695	46	25,470	11,208	44.0
Economic Environment (L2)	3,782	1974	52	4,260	1,959	46.0
Engineering System (L2)	7,765	4183	53	7,931	3,522	44.4
Plant & Equipment (L2)	3,993	2885	72	4,421	2,478	56.1

(Data extracted from DHET, TVET colleges Exam reports 2011 and 2012)

The problem is further exacerbated by the fact that college budget allocations have remained relatively static and funding is limited to NCV and N-programmes. There is limited capacity in colleges to diagnose and address weaknesses in teaching and learning, with insufficient focus on WBE. Despite these challenges, for the students that stay and pass through the TVET system, the colleges should support them in better preparing them, for the world of work through WBE.

Workplace-based experience (WBE) is a concept that focuses on learning in the workplace. It involves the learner, based in the real world of work, learning and applying his or her skills within the realities of industry standards, time and quality. The learner is able to grasp other aspects like behavioural attributes, career pathways, and make the connections to institutional learning. This concept is rooted in the apprenticeship model of learning that draws on the theory component and workplace learning as necessary criteria toward achieving the qualification. Internationally and locally, this model of learning has proven to be most effective for young people securing employment requiring engagement between institutions and employers.

The apprenticeship model works because of significant involvement of the workplace toward shaping and influencing the young person toward a job or career within the business or industry. In Germany, Switzerland, and other countries, the dual-track system of apprenticeship, which integrates theory and work through a close synergy between the institutional learning and the workplace, provides the highest quality of skilled people internationally. This model is based on a young person spending 30% of his time at an institution and 70% of his or her time in the workplace working and learning. The programmes are developed and regulated by large industry input. Thus learning through work is well established in the apprenticeship model. According to the country case studies done by ILO (2013), 'better and more broadly available apprenticeships can reduce youth unemployment and poverty when combined with national efforts to spur job growth'.To this end the

White Paper for Post-school Education and Training, recognises work-integrated learning as an important mechanism toward delivering the skills needed by the labour market and making college-industry partnerships necessary toward ensuring that colleges provide relevant programmes, providing workplace based experience opportunities for students and lecturers.

Since 2001, SSACI has been involved in improving the quality and efficiency of skills training available through public systems and institutions. At the time of the Joint Initiative on Priority Skills Acquisition (JIPSA) and Accelerated and Shared Growth Initiative for South Africa (ASGISA) (National Skills Projects managed from the Office of the President to address the skills shortages and the huge unemployability rates of young people), the public TVET colleges were mandated by the government to produce much-needed skills in South Africa. Colleges were, in the early part of the decade, in a transitory phase moving from the *technical college* paradigm towards *further education and training*. This change also brought numerous challenges into the sector and prevented it from performing to expectation. Most critical was that the quality of teaching and learning suffered enormously. Colleges needed an intervention at this point to ensure a turnaround.

In 2008, in partnership with the DHET, SSACI embarked on an intervention to align the NCV programme closer to the needs of industry. It advocated college-industry partnerships as a necessary means to this end. WBE for college students was seen as the starting point for such partnerships and alignment. Through action research with selected colleges, SSACI developed the concept of WBE for college students in the NCV programmes. It also explored the possibilities of

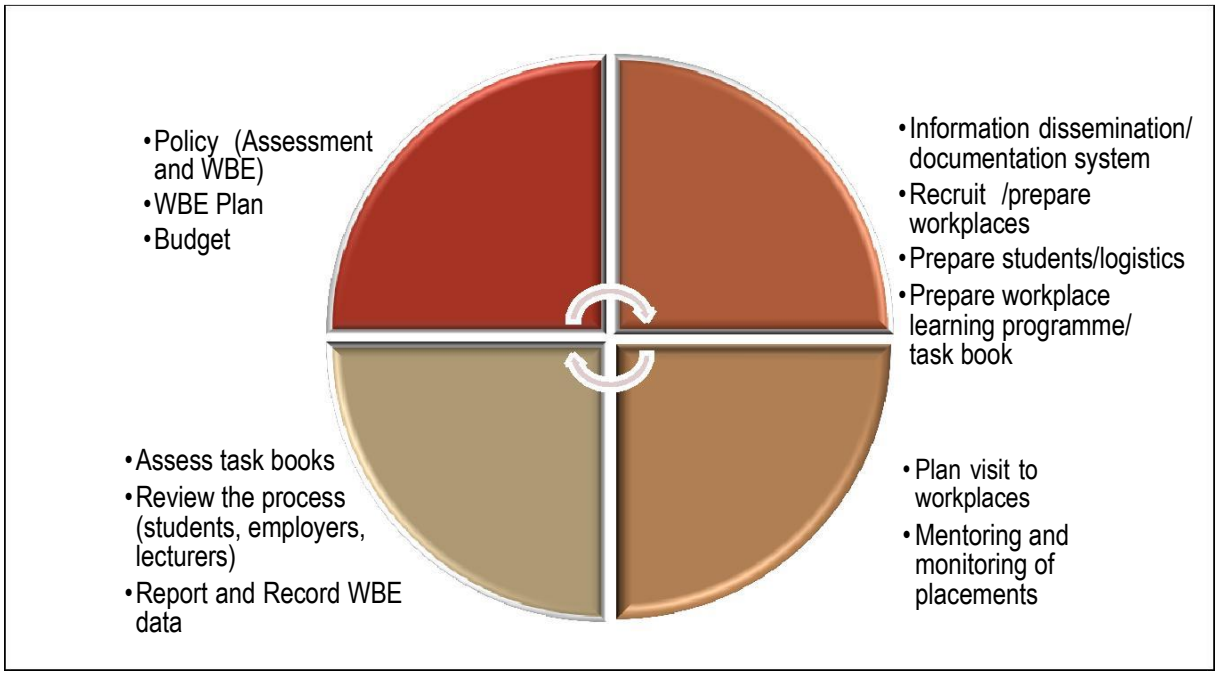
WBE benefitting lecturers as means to keeping them abreast with industry. However the rest of this paper will focus on WBE for students.

In a three-year pilot study with selected colleges (College of Cape Town, Umfolozi College, Umgungundlovu FET College and South West Gauteng College, Mopani FET College, Gert Sibande, Ekurhuleni West, Ehlanzeni, East Cape Midlands), SSACI devised a practical WBE implementation model to assist colleges. The pilot implementation of the WBE model focussed on the NCV Engineering programmes, in particular Electrical Infrastructure and Construction; and Engineering, and Related Design Programmes. The study involved placing a selected group of students in relevant workplaces in Level 2, Level 3 and Level 4 (from 2008 and 2010) for a short placement of between 5

– 15 days during their college recess period. The aim was to develop a sustainable model and it therefore addressed a way to institutionalise WBE within the college system, making them the drivers of implementing it. The WBE model therefore addressed the following key elements:

- College management component
- WBE curriculum component
- College Industry Partnership component
- Student component

Figure 2: Overview of SSACI WBE cycle



As reflected in Fig. 2, the process of implementing WBE is cyclical in nature and requires the regular rotation of four phases i.e. planning, preparation, placement and post-placement. Each phase is characterised by specific activities to be undertaken by various levels of personnel within the college. Roles and responsibilities are made explicit in a manual in which the above components are reflected, and in which guidelines are provided for college personnel to pilot their own WBE,

establish systems to support WBE and to expand WBE to all college programmes. Each cycle of implementation is meant to strengthen and expand WBE.

2. Benefits of WBE

To date, all 50 colleges have been trained on SSACI's WBE model. During post-WBE debriefing session with various colleges, the college staff indicated that benefits of WBE are threefold:

For students:

- Integration of knowledge and skills in a real work context where students are able to observe how various skills that are learned in isolation at the college are applied in an integrated manner in production and work processes.

- Understanding the process of work, development of an understanding of how work in their field of study is carried out to certain specifications of time, quality and cost, through prescribed processes and using particular technology.

- As a result of spending time in the workplace and in the presence of supervisors and foremen, some students reported that based on their good performance they were earmarked for job opportunities at their host employer. This visibility of students increased opportunities of employment for students.

- Lecturers indicated that there is an improved performance by students in their assessments in the vocational subjects. This can be understood from a student's perspective where they have found it beneficial to be in a workplace because they are able to engage at a very practical level. This has increased retention of learning and improved academic performance.

- Lecturers observed that students have an increased level of motivation, maturity and confidence after they return from WBE. They are able to engage with their studies in a more meaningful way.

- Students have the opportunity to clarify for themselves if their choice of career is correct and are able to find out for themselves the range of jobs within the field.

- Development of motivation, maturity, confidence and interpersonal skills.

- Improved employability through the resultant record of work experience, the opportunity to be previewed by potential employers and the development of a network of professional contacts.

- Students were recorded as saying:

    - *I was exposed to many processes within the company.*

    - *....I feel more passionate about my field of study.*

    - *Time was limited.*

- *I learned that the company is not a playground. I could die if I did not follow the safety rules.*
- *Everyone is serious about their work and not talk useless things...*

For colleges:

- Building relationships with employers and developing mutually beneficial long-term partnerships.
- Keeping up-to-date with industry changes and developments e.g. new technology.
- Through engagement with industry, they are better able to identify gaps in curriculum and match programme offerings to industry need.
- The college is able to develop sensitivity to the quality of its students and graduates through constant feedback from employers and has the opportunity to manage or remediate any shortfalls. This is also an opportunity for the college to improving the relevance of the curriculum.
- By providing WBE for its students it produces motivated students hence improving their pass rates, throughput rates and employability. This has reputational rewards for the college.
- Colleges have received expert training for its lecturers from its partners e.g. ABB has had SWGC (a college in Soweto) lecturers go through its in house electrical training programmes for the last three years. Umfolozi College (a college in Richards Bay) received machinery from Bell Equipment to improve its Mechanical Workshop.
- Through the partnerships, colleges are able to also secure jobs for its graduates, find host employers for apprenticeships or opportunities for N6 internships.

For Employers:

- Most Employers have indicated that they were able to use NCV students to do valuable jobs and this was a cost saving for them. Some employers asked students to return for holiday jobs. Thus cost-effective labour for the duration of WBE is possible.
- Employers are able to observe and engage with students during WBE. For employers this is becoming a better screening process for potential employees. Therefore, employers could reduce costs on traditional recruitment and induction.
- Employers have the opportunity to influence college curricula and be influenced by it (especially in terms of new ideas, systems, processes and technology). This is also an opportunity to ensure that the preferred quality of skills is produced by the colleges.
- Employers that hosted NCV students have reported that:
    - *The student is brilliant, hardworking and smart worker. She is definitely going to make a great impact in the mechanical industry...*

- *She has the right attitude. She thinks of the duties assigned to her... Shows continuous improvement in what she does*

- *A very good student. He asked a lot, was willing to learn, and wants to find out more.*

- *Poor timekeeping*

- *She will definitely make it big. She stands out high above her height. She knew much of what was happening around her.*

3. Critical success factors

The following critical success factors were revealed in the post-WBE discussions:

- Colleges must appoint a dedicated person to manage WBE or it will not likely be successfully implemented. Adequate staff capacity must be dedicated to WBE.

- Colleges must ensure that lecturers understand WBE (and consider ways to ensure that lecturers in the longer term are able to support the learners to integrate learning from WBE).

- Colleges should ensure that learners are carefully matched in terms of placement (type of company and nature of work).

- Colleges must ensure that task books are understood and used by students at the workplace and by lecturers when student returns to the college.

- Colleges must develop systems to enable students to access work opportunities that may arise through the WBE.

- WBE must be part of a college's strategy, budget and structures.

- WBE depends upon effective operational links and communication between college structures.

- WBE provision depends on initial and continuing support from employers (building WBE partnerships).

- WBE must be integrated into the college curriculum, where it is formally assessed as part of the college programmes.

- WBE must be included in the college timetable.

- WBE must be supported by effective record keeping and information management.

- To enable curriculum integration, lecturers should visit host employers and possibly engage in periods of WBE themselves.

Carole Hills (Group HRD Manager) from Bell Equipment indicated that for WBE to be a success, the following were suggested as important factors:

Companies must ensure committed artisan mentors (in the workplace)

- *Supervisors must allow flexibility in the workplace when students are there*
- *The college and the company must plan carefully for the placements*
- *Both the college and the company must keep proper documentation*
- *Both the college and the company must ensure open communication and feedback to each other*

The following excerpts highlight the impact of WBE on students:

Workplace experience relevant to college learning

- *I learned valuable things. The director even gave me a project to do. It was wonderful knowing how prepared I am for the workplace.*
- *We had our own machine and equipment. They gave us a drawing and we were actually working there, being part of the team.*
- *Everything we learnt at the college about the workplace is there. That way it gives you confidence and satisfaction that whatever you are doing now is not a waste of time.*

Impact of WBE on understanding theory and developing practical skills

- *Now when the lecturers are teaching, we have a better understanding of what they talking about.*
- *The work placement helped me to understand what they teaching, as I did it practically.*
- *It has helped with practical skills a lot, as I worked daily on a particular machine. I also worked with experienced people who gave me a few tips.*

Impact of WBE on understanding health and safety

- *At the college, we tend to neglect safety issues, but in the industry it is very strict which made me realise that safety is important.*
- *The most important thing I learnt is that if you are not safe, then you can be a danger to yourself and others working around you.*
- *Careless fools will be carried away. Safety comes first.*

Impact of WBE on managing studies and preparing for entry into the labour market

- *I have a clear understanding of the course I have chosen.*
- *It gave me an idea of what employers are looking for and what they expect.*

- *It is useful to do your studies when you know where they are going to lead you. This has made me put more effort into my studies because I have seen professional people who also studies what I am doing now. I have told myself if they did it then I can also make it and be just like them.*

- *The experience was extremely useful _ I learnt not only what it is to work, but also what my life could be.*

Anecdotal evidence is coming to the fore in terms of the benefits for all the stakeholders involved. SSACI is in the process of conducting a systemic study to ascertain the impact of WBE.

In addition, SSACI in partnership with ETDP-SETA is implementing a project involving lecturers going to the workplace to improve their teaching.

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Notes for contributors: *The African Journal for Work-Based Learning*

The Southern African Society for Cooperative Education (SASCE) publishes this journal to address the increasingly important notion of work-based learning. The broader context is that of linking formal institutional learning to the requirements of the world-of-work in a holistically conceptualised curriculum encompassing theory and practice. Currently, many diverse examples of the link between learning and work exist. *The African Journal for Work-Based Learning* tries to provide a forum for a scholarly understanding of the epistemological bases for learning *for* work, learning *at* work and learning *through* work.

While it is intended that the journal will be academic in nature, it should also serve as a resource for scholars, researchers and workplaces. Examples in the form of essays or discussion papers of best practice, good partnerships and cooperation will thus also be welcomed. **Manuscripts should be a maximum of 6 000 words (15 pages), including all diagrams, tables and references**. Submissions should be in Times New Roman, 12 pt, 1½ spacing.

The journal will be published once a year – in July – and will be made freely available on the World Wide Web at sasce.net. A limited number of hard copies will be made available at specific events.

Correspondence can be addressed to the acting editor at:

Ronel.Blom@wits.ac.za /+27 11 717 3071.

This particular edition will be language edited, but not peer reviewed.

Referencing style

References in the text should appear as follows:

1. Citing without verbatim quotes, e.g.

Competences of vocational teachers are considered to include subject matter specialisation, pedagogy and the knowledge of how theory is applied in practice, i.e. in the workplace (Papier, 2010).

2. If the text quoted is less than two lines long, it should be part of the sentence, e.g.

Papier (2010: 157), maintains that 'in South Africa only a few higher education institutions offer qualifications for college lecturers', but there does not seem to be agreement on the content of curricula for these qualifications.

3. If the text quoted is longer than two lines long, it should be indented, e.g.

Papier (2010: 157) therefore notes that:

> …vocational teacher preparation does not rank highly in university offerings here, partly because teacher education generally is under-funded within higher education, and the viability of new vocational teacher offerings has not yet been established.

4. The references should be listed in alphabetical order in full at the end of the paper in the following format:

Books

Surname(s), Initial(s). Year of publication. *Title: additional title information*. Edition (if other than the first). Place of publication: Publisher. e.g.

Nel, JP. 2010. *RPL. The concepts and procedures governing the recognition of prior learning.* Centurion: Mentornet.

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