Original Research

Integrating the World of Work Into Initial TVET Teacher Education in South Africa

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Abstract

South African Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (2013) provides a framework of professional qualifications for lecturers in the TVET system, which requires work-integrated learning placements in both education and industry settings. South Africa, however, does not have a convention of industry placement for vocational lecturers. This absence led the Department of Higher Education and Training, with the European Union, to co-fund a research and development project, the ‘effective delivery of the work-integrated learning (WIL) component of TVET and adult and community education and training lecturer qualification programmes’. The key output of this project was the development of a comprehensive curriculum framework for the industry-WIL component of the qualifications. This paper provides a reflective analysis of the multiple institutions, the national process through which the curriculum framework was developed and the knowledge generated through it.

Keywords: Industry based WIL for lecturers, teacher industry placements, TVET teacher education

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ISSN: 2091-0118 (Print) / 2091-2560 (Online)

Note: As Andre died unexpectedly shortly after having addressed the reviewers’ comments, his wife Esme Van der Bijl communicated further in approving the paper for publication. Email regarding the article may be addressed to the Journal Editorial Board (jer@kusoed.edu.np).

Journal homepages:  
1 http://www.kusoed.edu.np/journal/index.php/JER  
2 https://www.nepjol.info/index.php/JER/index

Published by Kathmandu University School of Education, Lalitpur, Nepal.

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Introduction

The Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (South Africa, 2013) was promulgated by the South African Minister of Higher Education and Training in 2013. This policy builds on the Minimum Requirements for Teacher Education Qualifications (South Africa, 2011), the policy framework for school teachers, and provides a framework of professional qualifications for lecturers in the country’s TVET system. The initial qualifications included in the policy framework require TVET lecturers to complete work placements in both education and industry settings.

While South Africa has a well-developed history of teacher education policy and work placement in schools, it does not have a convention of vocational teacher education policy, or of industry placements for vocational teachers. This absence led the Department of Higher Education and Training (DHET), with the European Union, to co-fund the Work Integrated Learning (WIL) for Lecturers Development Project, an inter-university research and capacity building project aimed at developing knowledge, competency and resources to support the implementation of the industry WIL component of the TVET lecturer qualifications by education faculties, the intended providers of these.

Literature shows that industry placement significantly improves student learning. However, the literature on vocational teacher professional development indicates that the nature and reason for teacher placements differ from that of student placement. While students complete industry placements to prepare them to work in their field of study on graduation, industry placement for educators has the aim of enhancing their industry knowledge and skills to enable them to be better teachers (Van der Bijl & Taylor, 2016). The literature points to the following specific benefits of industry placements for educators (Ireland et al., 2002, p. 3).

- Development of technical knowledge and practical industry experience.
- Increased confidence and motivation.
- Development of industry-relevant learning materials and resources.
- Building industry links.
- Improved teaching.
The findings and views emanating from the international literature are supported by the limited experience of industry placement of practicing TVET college lecturers in South Africa (Smith, 2017). The inclusion of industry placement in initial TVET teacher education is, however, not a common practice internationally (Van der Bijl & Taylor, 2018, p. 129), which the DHET industry-based research and development project on the effective delivery of the work-integrated learning (WIL) component of TVET and adult and community education and training (ACET) Lecturer qualification programmes WIL for lecturers sought to address.

The key output of this project was the development of a comprehensive curriculum framework for the industry-WIL component of the qualifications. This paper provides a reflective analysis of the multiple institutions and national process through which the curriculum framework was developed and of the knowledge generated through it.

Background

As the name suggests, South Africa is the southernmost state on the African continent. The country houses one of the strongest economies in Africa. Its climatic range has resulted in it is suitable for a wide range of agricultural products, which catalysed colonisation and settlement, first by the Dutch and later by the British Empire. A combination of the country’s climate and the colonising powers disregard for the local population resulted in the massive influx of European settlers and slaves, primarily from the East. In the last quarter of the nineteenth century the country’s economy was radically transformed with the discovery of minerals, first diamonds, but later gold and a range of other minerals required by the twentieth-century world economy.

Cape Town was established when the Dutch East India Company established a trading station in 1652. Within a decade, the trading station grew into a colonial settlement that steadily expanded. The British Empire seized the Cape Colony in the first decade of the nineteenth century, as well as other key points, like the port of Natal on the south-eastern coast. The country was established as a political unit in 1910 and gained its independence from the British Empire in 1961. The colonial power was replaced by a government based entirely on, and limited to, the naturalised descendants of European settlers, following the notorious apartheid ideology. After an extended period of social unrest, the first non-racial national democratic election was held in
1994. This was followed by radical social transformation, which included changes to the country’s system of education and training.

The colonial and apartheid systems that had been created, which included a disparate and differentiated collection of forms of education and training based primarily on race, necessitated social transformation. Different education and training institutions had been created for the different race groups specified by apartheid legislation. Furthermore, apartheid legislation had, until the late 1970s, restricted most forms of skilled labour to whites, effectively barring the majority of the country from skilled and professional forms of work. The result was the development of a dual economy, a largely urban first world economy, populated mainly by a continually growing white/European population, and a largely rural and semi-rural third world economy into which the majority of the county’s population was forced.

Vocational education in South Africa was established in the 1890s through the night schools of recently established universities. However, it developed as a form of education for the poor, or indigent, and ‘less able’ (Gamble, 2003, as cited in Van der Bijl & Lawrence, 2016, p. 343), offered primarily through its system of technical colleges. The post-1994 social transformation included the merging of technical colleges into multi-campus further education and training colleges (FET), the revision of existing curricula and the establishment of a new national certificate (vocational) equated to a standard school leaving certificate (Department of Education/South Africa, 2006). It also included the development of a professional qualification system for college lecturers (South Africa, 2008) separate from that of school teachers. Subsequently, FET colleges underwent a name change to technical and vocational education and training (TVET), intending to strengthen and expand them into ‘attractive institutions of choice for school leavers’ (South Africa, 2014, p. xii).

The 2008 draft policy framework for TVET lecturer qualifications was finalised and promulgated in 2013 as the Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (South Africa, 2013). This policy provides a framework of professional qualifications for lecturers in the TVET system that is distinct from those for school teachers (South Africa, 2011) and community education and training college educators and lecturers, for whom a separate qualifications policy, the Policy on Minimum Requirements for Programmes Leading to
Qualifications for Educators and Lecturers in Adult and Community Education and Training, was promulgated in 2015 (South Africa, 2015).

The TVET lecturer policy framework includes the following professional qualifications:

- Bachelor of Education in Technical and Vocational Teaching, an initial qualification for school leavers who wish to pursue a career as college lecturers.
- Advanced Diploma in Technical and Vocational Teaching, an initial qualification for university and college graduates who wish to pursue a career as college lecturers.
- Diploma in Technical and Vocational Teaching, an initial qualification for practising un- and under-qualified lecturers.
- Advanced Diploma in Technical and Vocational Education and Training, a further professional development qualification for educators from other sectors who want to enter TVET teaching.
- Bachelor of Education (Honours), Post Graduate Diploma, Master of Education and Doctor of Education in Technical and Vocational Education and Training. These are largely research-based postgraduate qualifications for TVET lecturers.

The Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (South Africa, 2013) requires that all initial professional qualifications include work placements in both education and industry settings. This differs from the policy framework from which it emanates, the Minimum Requirements for Teacher Education Qualifications (South Africa, 2011). This policy, like its predecessor policies, requires that qualifications for teachers include a work placement, but this is only required in one setting, school classrooms, a practice commonly called teaching practice.

Despite the new requirement for vocational lecturers to complete work placements in industry settings, South Africa does not have a convention to support such placements. TVET lecturers have commonly been sourced from industry or on graduation and, as a result, a significant number of those employed in TVET colleges do not have a professional teaching qualification, a qualification related to their field of expertise or industry experience. This is so even though professionally qualified TVET lecturers are expected to have expertise in “at least three domains, namely academic or
subject matter knowledge, pedagogy, and workplace qualifications and experience” (Van der Bijl & Oosthuizen, 2019, p. 206).

The DHET industry-based WIL for lecturers development project was established by the DHET to promote knowledge development in the area of vocational lecturer industry placement and build the capacity of university education faculties to implement this component of the new qualifications. The project was managed by the Cape Peninsula University of Technology (CPUT) and jointly implemented by CPUT and the Swiss South African Cooperation Initiative (SSACI).

CPUT has a long tradition of teacher education and before the promulgation of the Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (South Africa, 2013), offered TVET college lecturer training programmes within the framework included in Minimum Requirements for Teacher Education Qualifications (South Africa, 2011). SSACI, a South African non-profit organisation that was established in 2001 to support skills development and youth employment, began working with TVET colleges on lecturer placement in industry in 2009. Its early work in this area evolved into the SSACI-ETDP Sector Education and Training Authority (SETA) WIL for lecturers project, which was funded by the ETDP SETA and implemented by SSACI between 2014 and 2017. Throughout this project, more than 400 lecturers from 28 TVET colleges completed SSACI’s WIL for Lecturers Programme, which required their completion of industry placement and submission of a portfolio of evidence.

In 2014, CPUT and SSACI began working together to research TVET lecturer industry placement and publish SSACI’s experience in this area. This collaboration resulted in the publishing of an exploratory peer-reviewed article (Van der Bijl & Taylor, 2016), which included a review of international literature and an analysis of TVET lecturer placement activities facilitated by SSACI. This publication launched CPUT and SSACI’s collaboration as implementing partners of the DHET WIL for Lecturers Development Project and, along with the materials developed by SSACI to support TVET lecturer learning during industry placements, provided the starting point for the curriculum framework developed. In 2015 CPUT was awarded a research chair by the ETDP SETA for research into WIL and RPL (recognition of prior learning) in the TVET sector.
The curriculum framework was developed through an evolutionary process that involved a series of analyses of literature and focus groups attended by curriculum specialists from education schools and faculties assigned to produce the required qualifications. The process followed and the methodology underlying it is discussed in the next section.

**Methodological and Conceptual Considerations**

The project that formed the basis of, and is reported on in this paper, applied an exploratory and developmental approach. This approach was necessary, given that when it started, the primary researchers, CPUT and SSACI, were still exploring the literature and most universities had not finalised decisions on whether or not to offer the new TVET qualifications. Those who were middle-level curriculum specialists, who were in the process of appointing new staff to the posts, and who were employed in posts related to TVET programmes, were invited to participate in the project’s focus groups.

An action research methodology that used a snowball sampling mechanism was applied to the project (Saunders et al., 2009). Action research, McNiff (2002) argues, is a ‘practical way of looking at your work’ and reflecting on it. Creswell (2014) associates action research with ‘qualitative design’ and locates it within research methods that have a transformative worldview and ‘may change the lives of the participants, the institution in which individuals work or live, and the researcher’s life. As a research design, action research is a form of research that focuses on change. It is an active research process that includes data collection and analysis, or, as Saunders et al. (2009) note, a spiral that involves determining context and purpose, diagnosis, planning, taking action and evaluation, which, in turn, leads to further diagnosis. This further allows “many different viewpoints to co-exist” (Dhakal, 2019, p. 1). Moreover, action research, according to Saunders et al. (2009), is useful when analysing a variety of secondary data.

An action research design was appropriate, for both the project and this paper. The project aimed to produce contextual knowledge and materials that at the time did not exist, but were needed as a national competency. When the project commenced in September 2017, two organisations, CPUT and SSACI, had a working knowledge of the topic, which as noted above, was conceptualised into a collaboratively produced
peer-reviewed article, namely Van der Bijl and Taylor (2016). When the project concluded at the end of 2019, produced documentation for the implementation of industry based WIL as a component of professional qualifications for educators and lecturers in two education sectors, namely TVET and community education and training. The project included inputs from a volume of international literature, and more than fifty curriculum experts from twenty-two institutions, including universities, TVET colleges and community education and training colleges, through five national-level focus group exercises. To date, the project has also supported several related research projects, resulting in numerous articles in peer-reviewed journals and the presentation of conference papers. The project was clearly an agent of change and development.

Snowball sampling was the only viable mechanism for the project as it enabled the inclusion of different participants in the focus group once universities had finalised their programme plans and staff compositions. According to Saunders et al. (2009), snowball sampling “is commonly used when it is difficult to identify members of the desired population” (p. 240), which was a challenge the project faced. Snowball sampling usually involves making contact with participants, identifying the existence of more participants, making contact with them, and again, identifying the existence of more potential participants. This was the process followed by the project.

Knowledge Production

The knowledge produced through the DHET industry-based WIL for lecturers development project was published in a comprehensive curriculum framework (Van der Bijl & Taylor, 2019), an open-source document that could be used by providers of TVET teacher education for industry placements.

The project involved the development of what was called ‘a comprehensive curriculum framework’ that included outcomes, assessment criteria and learning materials for each of the legislated programmes, through a series of research-led focus group exercises. It also provided participant universities with a collection of publications that could be used in other subject areas of their programmes related to theorising and conceptualising WIL within the context of TVET teacher education. From the exercise’s inception, however, a statement later made in Van der Bijl and Taylor (2018) was realised: at that time, while “the country’s education faculties have
a strongly developed practice of school-based WIL, none currently offers a formal programme that includes WIL in the industry” (p. 126). It was therefore decided to develop what became known as a comprehensive curriculum framework (Van der Bijl & Taylor, 2019), to provide participants and related researchers lacking knowledge of industry-based WIL for TVET educators with:

- A summary of policy requirements for industry-based WIL in the initial professional qualifications for TVET lecturers.
- A summary and analysis of international literature on industry-based WIL for vocational educators.
- A list of outcomes and assessment criteria for the industry WIL component for the initial qualifications in the policy.
- Student industry WIL activities to complete for each qualification.
- Guidelines for implementing industry WIL within the qualifications.
- Student industry WIL materials to direct and record their learning.

The research underlying the curriculum framework’s development process, as a whole, was conducted by the focus group presenters, CPUT and SSACI, as was post focus group action, further development of the curriculum framework and additional research. Each focus group included sessions that involved the physical development of the curriculum framework, research and capacity building. The latter two elements were aimed at sharing new developments with participants and providing new participants with the knowledge required to bring them to the same level as those who had been involved from the beginning.

Focus group activity was complicated throughout the development process by the inclusion of new entrants, some of whom were from universities that joined the project after inception, others who were new employees of the universities already participating that were specifically employed to implement TVET programmes and, as a result, became involved in the project. The focus group activities were further complicated by the inclusion of qualifications for adult and community education and training (ACET). While the Policy on Minimum Requirements for Programmes Leading to Qualifications for Educators and Lecturers in Adult and Community Education and Training (South Africa, 2015) was largely based on the TVET policy framework, it was aimed at a new type of education developed to largely serve rural and disadvantaged communities. Furthermore, the philosophy underpinning the form of
adult and community education that has evolved in South Africa was not compatible with that of TVET. As a result, two different industry/workplace-based WIL frameworks were developed, one for TVET lecturers and one for ACET educators and lecturers.

Each focus group exercise had specific development aims. At the first focus group, held in October 2017, project aims were shared with participants. Much of the time was allocated to briefing participants on policy requirements for industry WIL for TVET lecturers and the nature of this in the international literature and from SSACI’s experience implementing this in TVET colleges. Participants were expected to identify the implications of the new policy for the programmes they were registering, as well as the implications of the contents of literature and findings from SSACI’s WIL for lecturers’ exercises. From this focus group, the first draft of the curriculum framework was produced. This draft was limited to providing an overall structure for the document as a whole, as well as content on policy, a review of the literature and an initial layout of outcomes for each potential programme.

At the second focus group exercise, held in November 2017, feedback on the initial draft curriculum was received, and potential activities expected of student lecturers when placed in business were considered. Additional research requirements were addressed, as some participants had identified issues that required further specific consideration. Based on inputs received, the literature review was reconstructed, as was the section on outcomes and assessment criteria. This focus group was attended by ACET specialists in addition to the TVET specialists who had attended the previous focus group. This resulted in an expansion of the curriculum framework to include the ACET qualifications, a decision that was later reversed. At the second focus group, specific research projects were determined, as well as a development process, involving a writing retreat, and a track at South Africa’s annual WIL conference.

The third focus group was held in March 2018 and was devoted to the finalisation of materials to be completed by students when placed in the business. Sections related to literature and outcomes were also adapted. During this focus group, the incompatibility of TVET and ACET programmes came to the fore, resulting in a decision to devote the following focus group exercise in June 2018 to the ACET qualifications and to finalise the TVET framework at a subsequent focus group exercise.
The subsequent TVET focus group was held in September 2018. At this focus group a revised comprehensive framework was submitted for discussion. It included a reworked version of the first three sections, the draft implementation guideline and revised student materials.

Minor changes were made following this version. The final version of the curriculum framework was then presented and approved at a DHET national reference group exercise, held in March 2019.

Throughout the process, the action research cycle of providing context and purpose, followed by diagnosis, planning, taking action and evaluation, was applied.

**Knowledge Generated**

Along the following subheadings, I have discussed the knowledge generated from this research.

*Uniqueness of and Theoretical Frameworks for Industry Based WIL for TVET Lecturers*

From the analysis of international literature and SSACI’s experience placing TVET college lecturers in industry, which is discussed in more detail in Van der Bijl and Taylor (2016, 2018), it is clear that industry based WIL for TVET educators differs from WIL for vocational students and school teachers. WIL for vocational students is aimed at exposing students to careers related to their studies. WIL for teachers, commonly known in South Africa as teaching practice, prepares trainee school teachers for a career in schooling. Industry based WIL for TVET educators involves reflection on work experiences for inclusion in and teaching of occupational subjects.

Three theoretical frameworks provided the basis for understanding the nature of TVET lecturer industry placement and the transfer of learning from a workplace to a classroom context.

The work of Schüller and Bergami (2008) provides an explanation of the process and key characteristics of industry placement of vocational educators. These authors developed a theoretical model for understanding teacher industry placement (TIP) primarily within the context of vocational education in Australia. TIP is a form of WIL developed as professional development for vocational teachers. Their cyclical/linear TIP model is based on Lave and Wenger’s (1991) Community of Practice (CoP) model.
According to Bergami and Schüller (2011), WIL for vocational educators involves the development of theory from an industry placement and experience, followed by classroom teaching and, ultimately, putting theory back into practice (pp. 136–137).

The second theoretical framework was based on Engeström’s (1987) activity theory model, which also has its origins in the work of Lave and Wenger and includes many versions. Activity theory is useful for understanding how vocational educators learn in one activity system (business) and transfer this learning to another activity system (education). The concept of boundary crossing in activity theory, according to Van der Bijl and Taylor (2016), provides a way to understand this complex process.

Shulman and Shulman’s (2004) model for teacher learning, which is also based on the CoP model, provided the third theoretical framework for understanding industry based WIL for TVET lecturers. This model is based on a conceptual framework that understands educator learning and development as taking place at three levels of practice, individual, community and policy (p. 268). All three levels are necessary for educator learning to occur and for their practice to change (p. 269). Applying the Shulman and Shulman model to TVET lecturer industry WIL, Van der Bijl and Taylor (2018) note that, “The articulation between industry-based learning and its implementation in practice...occurs not only between communities, but also at the level of individual learning..., and at the level of policy implementation and resource allocation” (p. 131).

Programme Differences

From the focus group exercises the specific nature, characteristics and requirements of the situation facing trainee TVET lecturers in South Africa were determined. The novelty of including industry based WIL in initial vocational lecturer education became apparent. While professional development placements were introduced in the United Kingdom in the 1990s and the TIP scheme in Australia in the last decade, these and other forms of vocational teacher industry placements were primarily continuing professional development exercises, not exercises for initial vocational teacher education. Furthermore, while the Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (South Africa, 2013) indicated time to be spent in industry and credit values to be allocated, it did not include outcomes or learning content. These were developed at the focus groups.
An analysis of the policy provided a distinction between the Advanced Diploma in Technical and Vocational Teaching, on the one hand, and the Diploma and Bachelor of Education in Technical and Vocational Teaching, on the other. The Advanced Diploma is a one year programme for graduates who have completed a qualification appropriate for teaching at TVET colleges. Common qualifications include engineering degrees and diplomas in tourism or hospitality studies. The Advanced Diploma is limited to providing pedagogical training to subject specialists. As a result, the policy envisaged that industry WIL in this qualification would consist of a short placement to update industry knowledge and skills and reorient this to teaching practice.

The Diploma and Bachelor of Education, in contrast to the Advanced Diploma, are three and four-year qualifications respectively that include education in both the subject specialisations and related education competencies. Industry based WIL, therefore, needs to include the initial development of industry specialisation skills and related teaching skills.

A key issue in the development of the curriculum framework was how much time trainee lecturers would need to spend in a workplace to develop a level of skills and experience that would be adequate to teach their subject specialisations (Van der Bijl & Taylor, 2019, p. 23-24). This was an issue for all three initial qualifications. In terms of the Diploma and Bachelor of Education, there was a strong view that lecturers teaching practical engineering subjects would need more time in the workplace than was included in the policy. The concern concerning the Advanced Diploma was that, while policy assumes that candidates will enter the programme with a suitable level of practical skills and industry experience in their subject specialisation, based on the profile of lecturers currently employed in TVET colleges, this will not necessarily be the case (Van der Bijl & Oosthuizen, 2019).

Regional, Industry and Community Differences

The South African economy is diverse, with, on the one hand, first-world urban centres, and poor rural and peri-urban communities, on the other. The country’s size and geographical diversity, furthermore, has resulted in the existence of a very wide range of industry types. Servicing diverse industrial needs is a major challenge for both TVET colleges and vocational teacher education providers, who are spread across the country and service both rural and urban areas.
Another challenge in providing the industry WIL component of the qualifications is that the learning and experience lecturers obtain in the workplace will not be uniform due to the large variety of types of businesses across the country that could serve as hosts in each vocational field. The design and assessment of the WIL programme for each qualification thus needed to be able to accommodate this variation.

**University Structure, Culture and Approach**

Universities are independent public entities, each servicing a local or regional community and operating within a structure and approach that has developed over time. In addition, not all universities have a history of working with local business and hence relationships to draw on. In fact, Badat (2009) argues that some universities see the industry and the demand for university-industry involvement to be detrimental to higher education and in direct contradiction to the historical purpose of universities. As a result, different universities have different sets of specialisations that are not necessarily compatible with aligning studies with industry requirements.

**Conclusion**

The policy framework for TVET lecturer professional qualifications includes industry-based WIL in the initial qualifications. This paper reported on an inter-university action research project that developed knowledge in this area and a comprehensive curriculum framework to support university education faculties implement this component of the qualifications.

When the project started, knowledge and research on industry-based WIL in South African university education faculties were limited as this had not previously been a competency required of them. Through the project, this has changed. Representatives from all universities offering the initial professional qualifications participated in the project focus groups. This developed knowledge and capacity in the area of industry based WIL for TVET lecturers and spearheaded research on this. As an action research project, it was thus an agent of change.

The new qualifications will be offered by universities from 2020. This will provide an opportunity to test the curriculum framework and student materials developed and for further knowledge development on industry based WIL for TVET lecturers in a South African context. The ultimate aims of the policy framework for TVET lecturer
professional qualifications are to improve the quality of teaching in TVET colleges and the relevance of the curriculum to the economy and needs of college students. Universities are required to conduct studies to determine the impact of the qualifications in this regard and especially the role of industry-based WIL incapacitating TVET lecturers to align the curriculum and their teaching to the requirements of work in their vocational field.

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Journal of Education and Research, Vol. 11, No. 1, 2021
South Africa. (2015). Policy on minimum requirements for programmes leading to qualifications for educators and lecturers in adult and community education and training.

To cite this article:
https://doi.org/10.51474/jer.v11i1.496