



**UNDERSTANDING THE TVET  
COLLEGE SECTOR:  
A CONCEPT NOTE**

*Project Leader: Prof Joy Papier  
Researcher: Prof Joy Papier  
Organisation: UWC Institute for Post-School Studies*



higher education  
& training  
Department:  
Higher Education and Training  
REPUBLIC OF SOUTH AFRICA







**UNIVERSITY of the  
WESTERN CAPE**



## **UNDERSTANDING THE TVET COLLEGE SECTOR: A CONCEPT NOTE**

**DHET-NSF RESEARCH PROGRAMME ON TVET**

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## LIST OF ACRONYMS

<b>ARPL</b>	Artisanal Recognition of Prior Learning
<b>CHE</b>	Council for Higher Education DHET-EU project,
<b>CLEP</b>	College Lecturer Education Project
<b>CoS</b>	Centres of Specialisation
<b>DHET</b>	Department of Higher Education and Training
<b>DG</b>	Director General
<b>FTE</b>	Full Time Equivalent
<b>GER</b>	Gross Enrolment Ratio
<b>HRDC</b>	Human Resource Development Cluster
<b>HSRC</b>	Human Sciences Research Council
<b>IPSS</b>	Institute of Post-School Studies
<b>LMIP</b>	Labour Market Intelligence Partnership
<b>MoU</b>	Memorandum of Understanding
<b>MTEF</b>	Medium-Term Expenditure Framework
<b>NAMB</b>	National Artisan Moderation Body
<b>NATED</b>	National Technical Educational
<b>NCV</b>	National Certificate Vocational
<b>NDP</b>	National Development Plan
<b>NEDLAC</b>	National Economic Department and Labour Council
<b>NSDP</b>	National Skills Development Plan
<b>NSDS</b>	National Skills Development Strategy
<b>NSFAS</b>	National Student Financial Aid Scheme
<b>NSF</b>	National Skills Fund
<b>NQF</b>	National Qualifications Framework
<b>OIHD</b>	Occupations in High Demand
<b>PQM</b>	Programme Qualification Mix
<b>PSET</b>	Post-School Education and Training
<b>QCTO</b>	Council for Trades and Occupations
<b>QLFS</b>	Quarter Labour Force Survey
<b>RSA</b>	Republic of South Africa
<b>SARCHi</b>	South African Research Chair Initiative
<b>SDG</b>	Sustainable Developed Goal
<b>SETAs</b>	Sector Education and Training Authority
<b>SIPs</b>	Strategic Integrated Projects
<b>SOCs</b>	State Owned Companies
<b>SSACI</b>	Swiss-South African Cooperation Initiative
<b>TVET</b>	Technical and Vocational Education and Training
<b>TVETMIS</b>	Technical and Vocational Education and Training Management Information System
<b>WIL</b>	Work-integrated learning
<b>WPBL</b>	Workplace-Based Learning

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## **INTRODUCTION**

This concept document serves as a foundational document for the Research Programme on Technical and Vocational Education and Training (TVET) (hereafter called the ‘the Research Programme’), which was initiated by the Policy, Research and Evaluation directorate (PRE) of the Department of Higher Education and Training (DHET), and is supported by the National Skills Fund (NSF). The document has three discernible sections: first the concept note describes the background to the five year research programme, and its aims and objectives; second, it highlights key national issues and/or debates that can be distilled from current TVET research or scholarship on vocational education, and which may impact on researchers and research approaches taken. The document also provides essential and most recent information about the TVET college sector, including statistics on its size and shape; relevant official policies to be considered, and key legislation in place or pending. Finally, this concept note presents international issues and/or debates especially with regards to how they align with the themes of the Research Programme.

The scope of public TVET provision is broad and includes TVET colleges, in-house training centres, state owned companies’ (SOCs) training centres, workplaces, assessment centres, dedicated occupational colleges, technical high schools, schools of skill, and universities of technology. However, this concept note focuses specifically on researching public TVET colleges, including workplaces and assessment spaces as relating to and integral to TVET college provision. Public TVET colleges have a wide geographical coverage and a presence in each of the nine provinces, covering both rural and urban locations. Second, public TVET colleges have received substantial investment by government, from the public purse, and hence there is considerable interest in their performance with a view to reporting on return on investment. The research programme acknowledges though, that private providers, especially those not for profit, are essential partners to government’s imperative of expanded access, and there is policy recognition of their potentially critical role in affording opportunities to young people. Therefore the research programme includes a focus on private Further Education and Training (FET) colleges as a discrete theme, especially with regard to the programmes they offer, their target markets, and the location of their services. As a foundational document, the concept note is not exhaustive of all issues in the TVET sector, providing only a broad overview of the sector issues. A more detailed analysis will be undertaken for each research project in the Research Programme.

## **BACKGROUND TO THE TVET RESEARCH PROGRAMME**

Transformation in the post-school space remains an important policy imperative since the collapse of apartheid, in that the legacy of skewed enrolment patterns, low participation rates, skills shortages, exclusion of the poor in higher education, weak linkages between further education and higher education, and unacceptably high internal inefficiencies in both technical vocational education and training and higher education systems, are still manifest in our society today. The current situation where a significant population of more than three (3) million unemployed and out-of-school (including post-matric) youth are unable to access post-school education and training (PSET) opportunities and lack viable opportunities has to be urgently addressed, as it has negative implications for South Africa’s ability to meet its targets of skilled people required for sustained economic development and improved quality of life (DHET 2015). The National Research and Development Strategy recognises that critical to wealth creation is human resource development, hence the need to “exert maximum effort to



train the necessary numbers of our people in all the fields required for the development, running and management of modern economies” (RSA, 2002:3).

Whilst there are still many contestable issues with regard to TVET colleges, there appears to be a generally accepted urgency about the need to train college graduates for the 4<sup>th</sup> industrial revolution and how colleges need to be prepared for that eventuality. Government’s overall objective of enhancing the success of the TVET system especially in the context of the need to develop a skilled and capable workforce to support growth and job creation, rests on several key reforms that are needed in the TVET sector, which include the following (White Paper on Post-School Education and Training (WPPSET), 2013):

- expanded enrolment of youth and adults;
- improving success and throughput;
- streamlined offerings and quality provision;
- development of staff and improved teaching and learning;
- strengthening partnerships with employers for work placement; and
- improving student support systems.

The WPPSET (DHET, 2013), and Vision 2030 (NDP, 2011) noted that throughput and success rates in TVET Colleges were unacceptably low, and that urgent attention would have to be given to improving these. While there has been an incremental increase in pass rates over the past 7 years, especially in the NCV programmes, there is considerable room for improvement. Cohort studies that examine throughput and transitions to work or higher learning are also needed to indicate success of TVET students, the colleges that have performed relatively well, the programmes that have yielded most success and so on.

Research has shown that key to improving teaching and learning and ensuring quality provision are, inter alia, the on-going training and development of TVET teaching staff, and adequate student support services (HRDCSA, 2014a; Fryer, 2014; DoE, 2008; DHET, 2017b). With regard to TVET educators/lecturers, research by the Institute of Post-School Studies (IPSS) and other agencies (see for example JET Education Services, 2016 & 2018; European Commission, 2015, Mgijima, 2014, HRDCSA, 2014a; DHET, 2017a) has revealed that there is a significant shortage of TVET staff who hold both initial teaching, and post-graduate qualifications relevant to vocational education. Coupled with the critical need for rapid expansion of TVET as outlined in government policy, the number of appropriately qualified TVET College lecturers will need to grow in order to accommodate increased numbers of students in TVET Colleges.

While there has been some improvement in levels of achievement in the National Certificate Vocational (NCV) and National Technical Educational (NATED) programmes, there are still persistently poor areas of performance in Colleges. In addition to poor pass and completion rates, there are still large numbers of students who are eligible to complete a qualification during the academic year but who do not take the final exam or complete the qualification. It is not known whether these students drop out of the College completely, or are repeating a course, which is indicative of the need for better data on student retention. It is imperative in this context, where around 60% of TVET College students are National Student Financial Aid Scheme (NSFAS) bursary recipients, that teaching and learning become a dedicated focus for investigating the reasons for the poor performance of some students, as well as the reasons for the success of others, and that findings are disseminated, reflected on, and acted upon. Of course the reasons for poor performance are multi-faceted, and there are numerous factors that impact on the teaching and learning environment which should not be overlooked. Research in higher education has shown that there are considerable returns for obtaining a tertiary education qualification (Van der Berg, 2014). Returns for post-secondary qualifications are higher in earnings and in employment probability, and of particular importance are tertiary

certificates that signal reliable achievement to employers, which is relevant for TVET Colleges expected to produce graduates who gain access to employment.

## **RATIONALE FOR THE RESEARCH PROGRAMME**

Policy intentions for TVET Colleges have been fairly clear that TVET Colleges should deliver training for ‘...young school leavers, providing them with skills, knowledge and attitudes necessary for employment in the labour market...mid-level skills... required to develop the South African economy’ (White Paper on PSET, 2013; NDP, 2013).

Various policy forums on TVET in the past (the Further Education and Training (FET) Round Table and Summit of 2010, for instance), have expressed the caution that TVET Colleges should not be seen as ‘catch-all’ institutions, offering everything to everyone who cannot be accommodated in other post-school institutions. Nonetheless, the lack of programme diversity in current post-school, pre-university institutions have resulted in public TVET Colleges becoming the go-to institution for those with no other option, rather than being ‘first choice’. Hard decisions will thus have to be made in the future by the DHET, and some indications of this are given by the debates in the White Paper with regard to discussions on the purpose of TVET Colleges, and particularly about the focus of programmes that should be offered. The National Plan for PSET has not yet been finalised, but it is evident that while clearer direction is being provided in the implementation plan there are matters that require policymakers to have robust information on which to base interventions that concern the role of TVET Colleges, their target market, their range of offerings and so on.

In light of the many unresolved TVET matters raised by the White Paper (2013) and that have been debated in various national and international TVET forums, a sustained Research Programme that sheds light on some of the questions being asked is considered by the national DHET to be critical for building confidence in the public TVET college sector.

The aim of this Research Programme is therefore to build a significant local body of knowledge that can inform TVET policymakers, practitioners, prospective employers, learners and their communities, about the inputs, practices, performance and outcomes of public TVET Colleges, with a view to enhancing knowledge and understanding for planning and delivery of interventions towards continuous improvement.

## **PURPOSE/S OF THE RESEARCH PROGRAMME**

It cannot be disputed that there is a significant lack of centralised information about TVET, its institutions, its achievements, its success stories, its inputs and its outputs, and so on, which feeds into general misinformation among communities and other education and training spheres. Government policy documents, for instance the White Paper on PSET (2013), made wide-ranging proposals for enhancing the quality, effectiveness, and efficiency of TVET, but in many instances these proposals required more detailed information on which to base crucial decisions with regard to TVET and its institutions, hence the Plan process included expert research on specific issues like differentiation, student support services and workplace based learning for the Task Team to make evidence based recommendations about the proposals to strengthen the TVET sector.

It is abundantly clear that a robust, evidence based, current, credible and contextually relevant local knowledge base is needed. The questions being asked in the Research Programme are not new or unexpected. Its themes and topics have arisen in a range of national (and international) forums over time, and are areas of research that could amass a reservoir of much needed data on the TVET College sector in South Africa, together with comparative data from other contexts where appropriate. Many of the questions in the Research

Programme have had studies conducted in the past that need to be updated, while others need to establish a baseline from which to move forward.

## OBJECTIVES OF THE 5 YEAR RESEARCH PROGRAMME

The **overall objective** of the Research Programme is to:

Enable the TVET College sector to realise its potential to build and uplift communities, combat inequality, poverty and unemployment and contribute to a sustainable and just economy that can provide for all South Africans' needs through full participation in the local and global economy.

In order to support TVET in realising its potential, the following four **specific objectives** for the Research Programme are proposed, and will inform its deliverables:

1. **Improve information on the TVET College system:** Provide TVET policy, planning and practice with the information and data that it needs for evidence-based reflection through the consolidation and production of contextually relevant and useful baseline empirical research;
2. **Establish sustainable research processes:** Establish research methodologies and instruments that are adapted to the South African TVET context and realistic means for the future adoption and expansion, including capacity building of Masters and PhD students and developing the TVET field;
3. **Link research to policy and practice:** Support iterative processes that enable policy and practice to be informed by reliable and credible research; and
4. **Capacity building**, which occurs in the programme at two levels:
  - At a policy level the programme will seek to build a robust knowledge base with accessible methodologies which can be utilised by the DHET to institutionalise its research capabilities going forward.
  - At the level of knowledge building, projects will recruit postgraduate students into the programme and will endeavour to link students' research to projects in this proposal.

## KEY RESEARCH THEMES

The Research Programme is a unique opportunity to address a coherent and comprehensive agenda that speaks both to policy needs and research interests. It builds on the past 25 years of South African research in the field and the lessons learned from engagement with the global academic community in the democratic era, mindful especially of Australian, British, Swiss, Danish and German (to name a few) research involvement in key South African policy initiatives.

The TVET College sector is required to be, at best: responsive to the needs of work as well as to the needs of marginalised youth; capacitated and underpinned by an appropriate vocational pedagogy and lecturer development programme; and efficient and effective at the institutional level.

**Research projects in the research programme are grouped thematically as follows:**

- **An overview of the TVET College sector (this concept document):** Key aspects of the TVET sector, more specifically that relate to the public college sector are set out herein. Current data in terms of the size and shape of the college sector constitutes an essential basis from which to move the research forward. Critical issues and debates in national policy which could have important consequences for TVET colleges are highlighted, as

well as learnings from international discourses on salient issues in TVET. The overview will serve as a point of reference for the research programme.

- **Responsiveness of TVET Colleges to the world of work:** At its heart, TVET is and must always be about preparation for the world of work, interpreted to mean employment as well as self-employment and entrepreneurial forms of work, and in what may be loosely categorised in some quarters as formal and informal sectors. However, it is essential to conceive of this in a dynamic and critical way that both learns from the challenges faced in addressing this over the past 25 years and which understands the nature and notion of work as both broad and changing. This theme covers the following projects:
  - Mapping of employment in relation to TVET College locations;
  - Analysis of College Programme Qualification Mix (PQM) responsiveness to potential work;
  - Curriculum relevance and responsiveness of College programmes;
  - Partnerships between Colleges and the world of work;
  - Destinations of College graduates; and
  - Employer perceptions of TVET graduates and curricula.
- **Access to and demand for TVET and evaluation of TVET Colleges:** Whilst preparation for the world of work is paramount, it is essential that attention be given to the needs and aspirations of learners; to how many of their lives have been shaped by poverty and inequality; and to how TVET must support them in becoming responsible adults and active citizens. These areas of the research therefore investigate the following:
  - Student demand for TVET Colleges;
  - TVET National Student Financial Aid Scheme (NSFAS) funding;
  - Dropout and retention in TVET Colleges;
  - Student performance;
  - Student sentiment analysis;
  - Student satisfaction;
  - Evaluation of TVET College governance;
  - Evaluation of TVET College accommodation;
  - Rural/urban classification of TVET Colleges; and
  - Developing a TVET college barometer based on data from the research within this thematic area, to provide a composite picture of public TVET colleges and their overall performance.
- **Teaching and learning in TVET:** Colleges and the sector as a whole must improve both on the efficiency of their resource use and on the effectiveness of their overall contribution to society and economy. Sustainable Development Goal (SDG) 4 acknowledges that quality lifelong learning for all cannot be achieved without quality teaching. Challenges in all these areas are particularly acute in TVET globally. This theme addresses a number of aspects that impact on teaching and learning in TVET Colleges as follows:
  - Assessment in TVET;
  - Costs of delivery of TVET programmes;
  - Quality of learning and teaching at TVET Colleges; and
  - Practical work at Colleges.
- **TVET College Lecturer Development:** Quality teaching cannot be achieved without a supply of lecturers who are well-qualified, well-motivated and well-remunerated. Given the importance of lecturer development, this theme covers the following key research issues:
  - The quality of lecturing staff;
  - Forecasting lecturer supply and demand in TVET Colleges;
  - Pre-service education and training of TVET lecturers;
  - Professionalisation of TVET College lecturers;

- Performance management and Continuing Professional Development (CPD) of TVET staff;
  - TVET post provisioning norms; and
  - A revised remuneration structure.
- **Private TVET Colleges:** this is regarded as a discrete theme in its own right given the very different nature and status of private providers compared with public providers. In this theme the spread, scope and reach of private providers will be documented, especially in relation to their offerings and the number of students that they deliver to.

## **METHODOLOGICAL APPROACH UNDERPINNING THE RESEARCH PROGRAMME**

The scope of this Research Programme is necessarily wide and deep, and will employ a mixed methods approach to data gathering that includes desktop and documentary data, qualitative and quantitative methodologies. In efforts to be generalizable as far as possible within the constraints of scale and budget, the research results aim to speak to all TVET colleges, all practitioners, all learners, all communities, and a wide range of employers. Therefore sampling methodologies will as far as possible, and within the limits of available data, attempt to be representative of the public TVET College sector in South Africa.

## **BENEFICIARIES OF THE PROGRAMME**

The Research Programme is also utilisation focussed (Patton, 2013) and potentially impacts on a wide spectrum of beneficiaries. Major beneficiaries would be policymakers and policy implementers who need access to an empirical store of information upon which to make decisions that make effective and efficient use of resources. Then there are planning implications for college managements, lecturing and support staff, potential employers and college partners. It is anticipated that students would be the ultimate beneficiaries of improved funding, better planning, streamlined programmes, improved teaching, learning and assessment, more workplace partnerships and practical training opportunities, and the like.

The next section of this concept document attempts to sketch developments to date in terms of what is already known or in process with regard to the TVET and skills development sector.

## **SOUTH AFRICAN SKILLS DEVELOPMENT POLICY AND CURRENT DATA**

The following sections frame the research to be undertaken in terms of current national debates, policy understandings and initiatives already under way in relation thereto. The data that is currently available is provided as baseline data for further research that will be undertaken in terms of the TVET Research Programme.

## **POLICY VISION FOR EDUCATION AND SKILLS DEVELOPMENT**

The National Development Plan (NDP), the New Growth Path (NGP) and other key policy documents of government have set out essential strategies and priorities for development, with an emphasis on inclusive growth and employment generation. The post-school education and training system is tasked with responding to these imperatives, especially to widen the pool of skills available to the country, as it is envisaged that achievement of this goal will enable expansion of critical economic focus areas and equip young people to obtain work. The NDP's vision is that, in 2030, South Africa's education, training and innovation system caters for different student needs and produces highly skilled individuals. The NDP also asserts that to produce a skilled workforce the TVET system has to be responsive to the changing labour market as well as individual needs, and yet be flexible enough to address skills imbalances and shortages.

In 2011, when the National Skills Development Strategy (NSDS) III goals were being set, it was established that there was an urgent need for credible information and analysis with regard to the supply and demand for skills. This is in line with the White Paper on PSET's (2013) assertion that "if the provision of education and training is to be better coordinated with the needs of society and the economy, central information about skills needs is required". Furthermore, South Africa's Medium-Term Strategic Framework (MTSF) (2014 to 2019) identifies a credible institutional mechanism for labour market and skills planning as an important sub-outcome to achieve a skilled and capable workforce to support an inclusive growth path.

The White Paper for Post-School Education and Training (2013), hereafter referred to as WPPSET emphasises a combination of theoretical knowledge and practical experience in TVET. Work-integrated learning (WIL) is stated as being a central component of TVET as endorsed by the National Skills Accord signed by all partners in the National Economic Development and Labour Council (NEDLAC) (DHET, 2013, pp. 16-17). The WPPSET sets out a vision of a transformed post-school system that is more equitable, expanded, and more diverse than it is at present, and includes a key role for employers in the provision of education and training opportunities.

The Human Sciences Research Council (HSRC) Policy brief on Education and Work (2016) emphasises that universities, TVET colleges, and other public and private providers need to respond to changing technological and skills needs of employers, and attend to producing the 'right' graduates for the workplace and the national economy. Employers equally, the brief holds, need to have a realistic understanding of the capacity of universities, TVET colleges and private providers to respond to skills demand.

The 2017/18 financial year saw the approval of the National Skills Development Plan 2030 (NSDP) after a series of broad consultations with relevant stakeholders in the PSET sector. The approval of the NSDP means that the DHET can phase it in as of 1 April 2020 and paves the way for possible institutional and legislative changes, regulations and other relevant guidelines.

Specifically, the key role of TVET in developing intermediate skills is referenced in key government policies, strategies and frameworks, some of which are summarised in Table 1.

**Table 1: Selected key policies and strategies on the role of TVET in growing intermediate skills**

<b>Policy/Strategy/ Framework</b>	<b>Provisions on policy goals/Implications for TVET</b>
<b>HRD Strategy 2010, revised 2017</b>	Strategic Priority 1.1 is aimed at accelerating training output in the priority areas of design engineering and artisanship. The revised HRD Strategy 2017 tasks TVET colleges with increasing the supply of intermediate skills in high demand.
<b>National Development Plan 2011</b>	Advocates expansion of access to TVET and emphasises that the skills accord signed by unions and the private sector should be used as a mechanism to provide internship opportunities to increase the number of artisans for the country. A target of 30 000 artisans per year by 2030 is set by the NDP.
<b>New Growth Path 2011</b>	TVET colleges have a central role in providing mid-level skills for young people. <b>The Skills Accord</b> promotes the adoption of FET colleges by businesses for better alignment between college offerings and industry needs. <b>The Youth Employment Accord</b> commits to the provision of work placement opportunities for TVET students by SOC's. The range of opportunities in sustainable manufacturing, construction, and installation of renewable energy

	and plants signalled in the Green Economy Accord provide supply side demand for mid-level skills that can be provided by the TVET sector. Provision by TVET colleges can also be informed by DHET's Green scarce skills list.
<b>National Skills Development Strategy III (NSDS III)</b> <b>2011</b>	Underscores the role of TVET Colleges in the skilling and re-skilling of youth. Goal 4.2 specifically highlights that TVET has a role to play in increasing access to occupationally directed programmes to address the low pool of intermediate skills in the country. Goal 4.3 emphasises that TVET Colleges should be responsive to sector, regional, and national skills needs and priorities.
<b>White Paper for PSET</b> <b>2013</b>	The white paper is specific that TVET colleges should provide training for mid-level skills for the development of the South African economy, "focusing on occupations in the engineering and construction industries, tourism and hospitality, and general business and management studies" (DHET, 2013: 11-12).
<b>MTSF 2014 – 2019</b> <b>2014</b>	Stresses the need for artisans to meet the needs of the growing economy and TVET's role in this outcome.
<b>National Infrastructure Plan</b> <b>2012</b>	TVET Colleges are tasked with supplying some of the skills needed for the 18 strategic integrated projects (SIPs). Thirteen priority trades on demand have been identified for infrastructure programmes and other programmes such as War on Leaks and the Phakisa programme on the new ocean economy. Selected TVET Colleges have been designated as centres of specialization (CoS) for the provision of QCTO developed programmes for the 13 priority trades.
<b>Industrial Policy Action Plan (IPAP)</b> <b>2016</b>	Proposes the development of a dedicated National Development Artisan Programme to support priority manufacturing sectors. This requires expeditious design and accreditation of occupational programmes through the QCTO, as well as well-resourced TVET colleges in terms of staff, equipment and machinery, to deliver quality programmes.
<b>National Integrated ICT Policy</b> <b>2016</b>	The TVET sector's role in developing information and communications technologies (ICT) skills needed for ICT innovations such " cloud computing, big data and Internet of Things" is highlighted in this policy.
<b>National Tourism Sector Strategy</b> <b>2017</b>	TVET colleges are explicitly tasked with improving tourism skills and service excellence. Given their proximity to local communities, colleges can also contribute to the provision of tourism related skills to stakeholders in rural areas and townships.
<b>National Skills Development Plan (NSDP) 2030</b> <b>2019</b>	Outcome 1 of the NSDP 2030 which will be phased in on 1 April 2020 as the successor to NSDS III is: "Identify and increase production of occupations in high demand" (DHET, 2019: 26). To this end, targets will be set for skills levy resources that will be directed at developing intermediate level skills including the 30 000 artisans a year to be developed by 2030. Outcome 4 is "Increase access to occupationally directed programmes" (DHET, 2019: 28) and this will be achieved through SETA identification of artisans and other intermediate skills required by each economic sector and feeding this intelligence to colleges.
<b>Provincial HRD Strategies</b>	Because of their existence in specific provinces, TVET colleges are featured in provincial HRD strategies as a supply stream for the development of mid - level skills in the provinces. Some provinces use the economic activities in their provinces to inform enrolment planning. Provincial HRD Strategies also make provision for investment to strengthen TVET colleges.

## **TOWARDS A SKILLS PLANNING MECHANISM**

The DHET entered into partnerships with Wits University and the HSRC to assist it to establish an institutionalised, credible mechanism for skills planning, which led to the Labour Market Intelligence Partnership (LMIP) Project in 2012. The intention was to design a forecasting model to project future skills needs and assess the imbalances between skills supply and demand. The following have been the achievements of the LMIP:

- The publication of policy briefs and frameworks for use by the Department in the establishment of a skills planning unit;
- The publication of a large number of research reports and journal articles, which provide insights into the labour market;
- The organisation of policy roundtables and other similar events which has started creating a community of practice on skills planning;
- Presentations of research findings to the Human Resource Development Council (HRDC), the DHET and the economic cluster;
- The creation of a research database on research in PSET; and
- The development of a major report on skills supply and demand, which identifies skills imbalances in the country (See LMIP Report on Skills Supply and Demand, 2016).

The understanding of skills demand involved an exploration of three inter-related aspects: the state of the economy; the characteristics of the employed and unemployed who make up the labour force; and current and intermediate demand from the analysis of changes in the structure of employment.

The DHET is in the process of establishing a Skills Planning Unit and funding for the Unit has been secured from the NSF. (See: Demand for Skills: Towards a Framework for Skills Planning in South Africa 2017).

### **Occupations in high demand in South Africa**

The LMIP 2018 Technical Report on Occupations in High Demand in South Africa should be read in conjunction with the DHET Gazette 41788 (2018).

Skills shortages in South Africa according to the LMIP technical report are regarded as bottlenecks in both the production of goods and the provision of services within the public and private sectors. Two Lists of Occupations in High Demand (OIHD) have already been gazetted (DHET2014; DHET 2016) respectively. The most recent gazette (DHET 2018) builds on past work and presents the list on OIHD. The purpose of the list on OIHD according to DHET is as follows:

- To improve the responsiveness of PSET to the needs of the economy and the broader developmental objectives of the country;
- To support the planning processes in the PSET system with regards to enrolment planning, decision-making on the prioritisation of resource allocations, qualifications development and career information and advice;

In addition, public and private employers, employer organisations, professional bodies, the trade unions and research organisations are encouraged to use the list of OIHD to support the provisioning of their own education and training programmes. The list is categorised into three levels of demand: highest demand, higher demand and high demand. From the list it appears that managerial positions rank amongst the highest demand, followed by demand for tradespersons and operators.



## **Centres of Specialisation (CoS)**

The DHET established a Special Projects Unit in the Office of the DG to identify key skills and occupations that would be required for Government's 18 Strategic Integrated Projects (SIPs) and it is in the process of ensuring that education and training institutions have the capacity to offer the relevant qualifications that are required.

The CoS Programme is a DHET initiative designed to meet two objectives: first, to address the demand for priority trades needed for the implementation of government's NDP in general and its National Infrastructure Plan more particularly; and second, to build the capacity of the public TVET College system to deliver trade qualifications together with employer partners. The DHET has identified thirteen priority trades for the construction of the Strategic Integrated Projects (SIPs) of the National Infrastructure Plan and for other projects such as Phakisa and War on Leaks. In response to the demand for these trades, the DHET is creating CoS at selected public TVET colleges. The NSF, supported by the Sector Education and Training Authorities (SETAs) and other donors, are funding the development of the CoS. QCTO qualifications will be delivered at these new centres in partnership with local industry.

The Swiss-South African Cooperation Initiative (SSACI) has been contracted by National Treasury to project manage the CoS Programme for the next three years and support the delivery of CoS through the various work streams in the DHET and Occupational Teams that consist of industry expertise. These entities were created to develop the CoS by end 2018, for the first cohort of apprentices to enter the three-year programme in 2019. The CoS Programme is important for the country in that it will produce a new model for training of apprentices and seek to ensure that quality skills for employment are developed through a mandatory public college-industry collaboration.

## **Employability of graduates**

A concern according to the DHET Research Agenda 2017-2020 is the notion of employability and its reflection in existing DHET policy and legislation. An interpretation of employability is the kind of knowledge, skills and attributes that employers look for in new graduates.

The findings of the LMIP (Reddy et al, 2016) report indicate that employers attach much value to reputation and trust in qualifications, signalling a critical need to raise awareness about new qualifications. Furthermore, concern was expressed about the low levels of general education, and this was directly related to the 'soft' skills often associated with employability. For employers, according to the report, a key implication is seeing training, induction and mentorship as an integral part of producing an employable person. A strong recommendation is that education and training institutions need to produce graduates who are able to learn in the workplace, and this learning needs to be systematic to ensure maximum benefit to both parties. The report recommends that SETAs are ideally placed to be the interface between employers and education providers and that facilitating connections between the two domains should be a central mandate and go beyond simply assisting with the placement of students. This recommendation is taken up in the NSDP 2030 where SETAs are tasked with "brokering the linkages between the labour market, employers and sectors with the education and training institutional supply" (DHET, 2019a: 13). The report reflects on the need to view employability as a function of a complex interplay between policy, various actors and education, in the context of broader economic processes. Making someone employable is only possible if a number of dimensions are brought together.

## **Stakeholder partnerships**

As set out in the DHET Research Agenda 2017-2020 (2 May 2017), technical and vocational education and training that contains an active workplace learning component, requires

partnership arrangements between government departments, education institutions, employer bodies, trade unions, industry and SETAs. Partnerships will assist PSET institutions to locate opportunities for Workplace-Based Learning (WPBL), place students when they complete their studies, and obtain regular workplace exposure for college staff to keep them abreast of developments in the industry. Employers should also be in a position to advise the college system and individual colleges on curriculum, programme and qualifications issues, and experts from industry could teach at colleges on a part-time or occasional basis.

Despite the relatively high levels of funding available through the Skills Levy Grant system, limited opportunities for workplace training and experience for students and staff remains a significant challenge. The NSDP 2030 attempts to address this challenge by tasking SETAs as intermediaries in brokering linkages between colleges and employers. Alignment of planning and funding cycles of skill levy institutions “will allow for much greater coherence between workplaces and education and training institutions in offering workplace learning opportunities to students in PSET, and industry experience for lecturing staff, particularly in public institutions” (DHET, 2019a: 12).

### **Transitions to the labour market**

The HSRC LMIP Report (2016) emphasises that inequalities and failures in the labour market and education and training systems have hampered graduate transitions to the labour market or to meaningful work in several countries. The persistent, and, in some cases, growing, disjuncture between the needs of society and the labour market and the needs of individuals has led many to question the role and effectiveness of the PSET system and, particularly SETAs in directing and disbursing funds in order to develop skills that are needed in the South African labour market.

There is currently a considerable amount of data within the workplace based learning system, but very little of this data exists in a central location, and the various pockets of data are not captured in a single system although attempts have been made to do this. The data that is currently available needs to be strengthened as most of it derives from relatively small, dedicated graduate destination studies or larger surveys (QLFS and SASAS12) of the labour market, which do not have a focus on WPBL participants.

Regarding TVET college student transitions into employment, there have been a few comprehensive studies undertaken (see earlier studies by Cosser, 2003; SSACI, 2009; and Gewer, 2010). A more recent tracer study undertaken in 2016 (See Rogan, 2018) of students who had completed NATED programmes at three exit points found that 52% of students who had completed Business Studies and Engineering programmes were employed at the time of the survey (about 18 months after their completion) while 48% were not employed at the time. Of those not employed, the vast majority were active job seekers and had had jobs from time to time. A further 17% of the total sample were studying at the time of the survey, about a third of whom were enrolled in other TVET college programmes, which may point to a revolving door syndrome where students stay in the system to avoid joining those who are not in education or training.

Building on the previous study, another tracer study was undertaken for the DHET by a Rhodes-UWC partnership in 2019 and investigated the exit trajectories of around 4 000 NATED and NCV students at exit points in their qualifications. This report is not yet in the public domain.

### **Artisan development**

The DHET has continued to place high emphasis on artisan development, as it remains central to meeting the needs of the country's economy in tandem with accelerating growth and reducing unemployment. Artisan development is regulated by the Skills Development Act

(SDA), Act 97 of 1998 as amended in 2008 and the establishment of a National Artisan Moderation Body (NAMB) in 2010.

In 2014, the DHET declared 2014-2024 as the Decade of the Artisan and launched an advocacy programme in several provinces, including Mpumalanga and the Eastern Cape. The Minister at the time approved the National Trade Test Regulations for implementation as of 1 April 2015 in order to implement a single national artisan trade testing and certification system across all economic sectors, and quality assured by the QCTO. A series of additional policies, Regulations and Guidelines have been produced since 2009. Between the periods 2011/12 to 2014/15, a total of 53 667 artisans were found to be competent in terms of the current testing and moderation system.

During the last three years of the Medium-Term Expenditure Framework (MTEF) (2015, 2016 and 2017) audited national artisan production numbers have increased from 14 389 to 21 188 artisans. This artisan growth has occurred amid challenging economic constraints within the public and private sectors. The National Development Plan (NDP) target is to produce 30 000 artisans per annum by 2030.

The following activities support the Decade of the Artisan goals (DHET, 2016):

- Listing of Trade Occupations as per Gazette 35625, 2012;
- Policy for a Generic National Artisan Learner Grant Funding and Administration System;
- Setting up Provincial Artisan Development Steering Committees through an MoU between the DHET and public TVET Colleges;
- Regulations for the Registration of Artisans; Trade Test Regulations;
- ARPL Policy, criteria and guidelines;
- Assessor and Moderator registration;
- Process to coordinate workplace approvals by SETAs.

The top 15 trades in no order of priority are: electricians, riggers, auto electricians, air conditioning and refrigeration technicians, metal fabricators/sheet metal workers, diesel mechanics, motor (petrol) mechanics, welders, carpenters and joiners, fitters and turners, boilermakers, toolmakers and millwrights.

Increasingly, the focus is on implementing the dual system of apprenticeship that was piloted in partnership between DHET and SACCI through the Artisan of the 21<sup>st</sup> Century (A21) system. The A21 system utilises occupational qualifications being developed by the QCTO and implemented in the CoS. The programme which was initially focused on artisan trades, will expand in the future to include non-artisan trades so that other occupations also benefit from theory, simulation and workplace experience which characterise the A21 programmes (Western Cape Government).

## **TVET COLLEGE ENROLMENT AND PERFORMANCE**

The DHET's annual retrospective statistical publication has provided data on college enrolments and examination success for the years 2010-2018 and has come a long way in addressing the much lamented lack of data on students. There is now a functional TVET Management Information System (TVETMIS) and the annual publications provide demographic, curriculum and college disaggregation of student headcount (and sometimes FTE) enrolments including 'race' gender, province, age, year, qualification type, and level and programme details for the NCV and NATED programmes, with some statistics on occupational and other programmes.

## DHET PLANNING TARGETS

The WPPSET envisaged that by 2030 there would be 1.6 million headcount enrolments in public universities and 2.5 million headcounts in TVET (DHET, 2013: 26). The NDP had anticipated 1.25 million TVET students which the White Paper appeared to interpret as being full time equivalent (FTE) projections. The projections signalled the DHET's intention not only to grow the TVET sector substantially, but also to enable it to exceed higher education enrolment (as universities are not planned for exponential growth), and to become institutions of first choice for vocational students rather than the default choice of students who do not qualify for entry to higher education programmes. Statements by the Minister at the time further indicated that the National Student Financial Aid Scheme (NSFAS) would play a significant role in increasing access for the poor.

The DHET annual strategic plan provides the following 2019/20 targets against a 2015/6 baseline (where this is available).

Table 2: TVET 2019/20 enrolment and funding targets

Indicator	Baseline 2015/16	2019/20 target
Headcount enrolment state funded	429638 (2017/18)	429638
Headcount enrolment college funded	238 127 (2017/18)	235110
Headcount enrolment funded from other sources	35 940 (2017/18)	45787
NCV L4 Certification rates	23.3%	40%
N3 certification rate	51%	65%
N6 certification rate	34.3%	50%
NSFAS bursaries	200000	298457

## FUNDING OF TVET AND FINANCIAL SUPPORT TO TVET STUDENTS

During the 2017/2018 financial year the TVET college sector was allocated 16.7% or R6.7 billion of the post-school budget, compared with HEIs which received 78%/R31.6 billion) and the CET sector which received 5.3%/R2.1 billion.

The NSFAS allocation for TVET students loans/bursaries in 2017 amounted to R2 billion, providing support to 200 339 students. Over a 7-year period the number of students who received bursaries increased by 74.3%.

Travel and accommodation allowances are subject to availability of funds on a pro-rata basis (DHET, 2016: 11) and insufficient funding of travel or accommodation costs have given rise to student protest action from time to time.

## CURRENT STATISTICS ON ENROLMENT AND PERFORMANCE

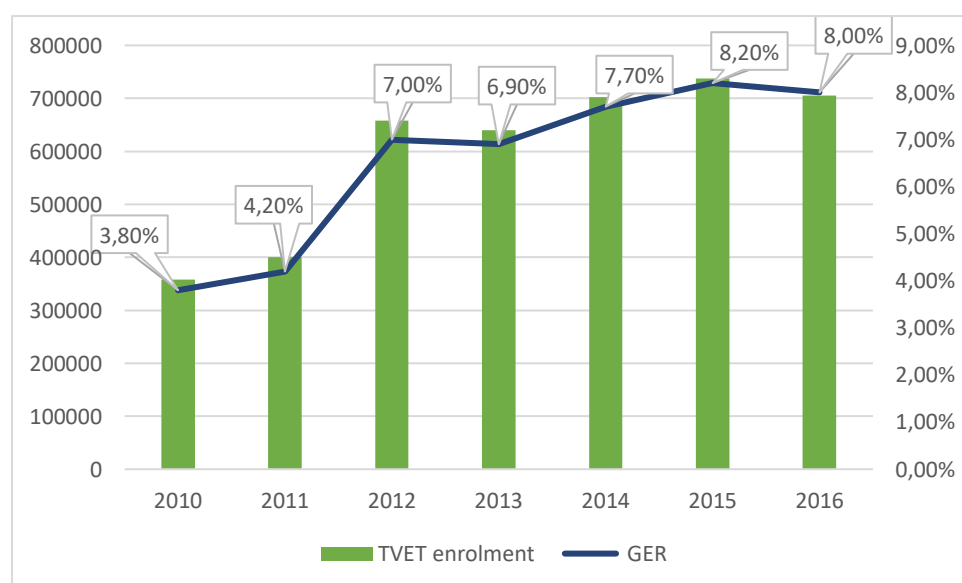
The development of the enrolment and examinations databases has vastly improved statistical data available for planning and research. Since 2016, this data has been collected from the TVETMIS (DHET Annual Report, 2017: 27). Results from these databases are made available two years retrospectively in the annual publication of the DHET Statistics. In 2019, an overview of these annual statistics was compiled into the PSET monitor which tracks quantitative trends from 2011-2016 and reports on access, success, equity, efficiency and quality.

The PSET monitor reports student participation (access) and performance (success) in terms of Gross Enrolment Rate (GER), relative size of TVET in the PSET system, and number of students who enrolled, wrote, passed and were certificated. The PSET monitor disaggregates these results in various permutations by age, gender, 'race', province (some Annual Statistics reports provide college level data), qualification (sometimes drilling down to programme and level), and time based data (by year). Different measures are used to report on the data including nominal accounts of the numbers involved, percentages of a population, full time equivalents (FTEs) and headcount data and changes over time. This data enables analysis of trends over time, relative and absolute growth.

There is thus an emerging statistical base to provide a window of understanding into the TVET college sector. The following sections summarise some of the data and trends identified in the DHET reports.

### Participation in TVET - Gross Enrolment Ratio

The GER measures population participation in PSET as a percentage of the total population (in this case the 16-24 year old population) which provides a measure of growth relative to shifts in the population. The PSET monitor records a gross enrolment ratio (GER) increase between 2010 and 2016, (16-24 yrs) from 3.3% to 8.0% and a nominal count increase from 358393 to 705 397 headcount students by 2016.

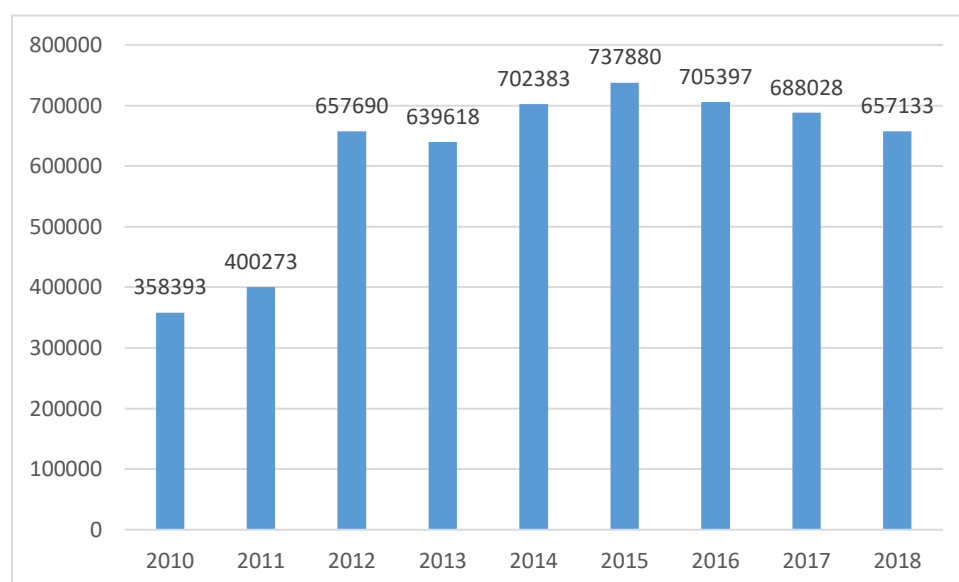


**Figure 1: TVET enrolments and GER 2010-2016**

Figure 1 shows TVET headcount enrolments with gross enrolment ratios (GER) measured against the 16-24 population (DHET, 2019b). The data shows improved enrolments in TVET in absolute terms even though there has been a slight decline in the overall 16-24 population. Enrolment has nearly doubled and GER increases are impressive by international standards. However the absolute number falls substantially short of NDP and WPPSET targets, and is low compared to high income countries (though high by SADC standards)<sup>1</sup>. These figures are somewhat complicated by specific features of TVET data. Reported figures are based on headcount enrolments. However the NATED and possibly occupational qualifications have several enrolments in an annual cycle. Thus a student may enrol multiple times or may register for one or two subjects. Whilst useful, headcount enrolments do not necessarily translate into

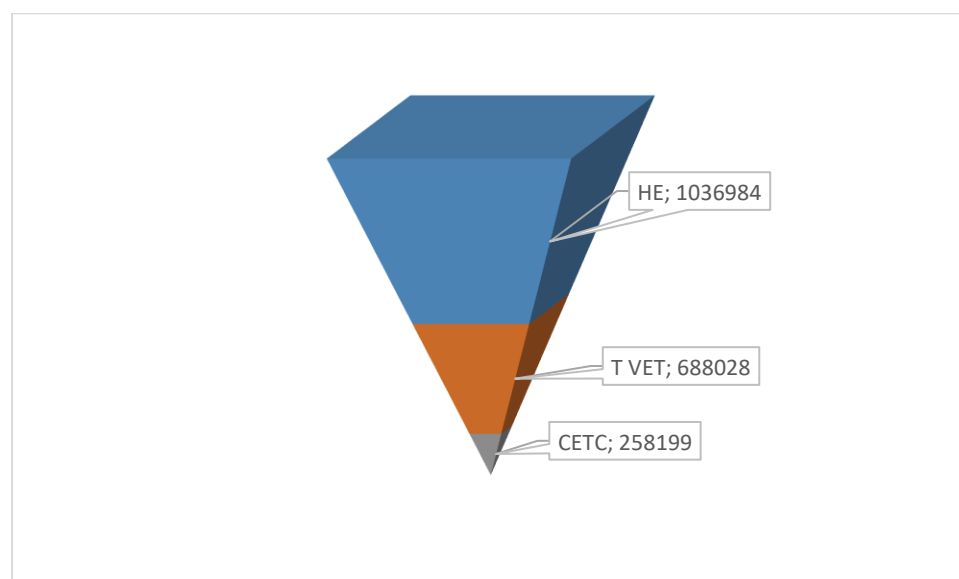
<sup>1</sup> Comparative studies around context specificity tend to problematise simplistic international comparisons.

numbers of students. Alternative measures of full time equivalents (FTEs) or distinct student counts may provide better insight into the issue of access. TVET share of enrolment within PSET. It is the intention of the WPPSET that TVET should be the largest sector within PSET. The WPPSET envisaged that the TVET sector would have 2,5 million headcount enrolments by 2030, with student headcount having been anticipated to reach about 1 million by 2015 as compared with Higher Education. The DHET annual strategic plan for 2019-20 however suggested that the figures would be revised downward, given that the growth rates anticipated by the NDP had not materialised (DHET, 2019b, p. 58). This slight tapering off of TVET participation is shown in Figure 2



**Figure 2: Student participation 2010 - 2018**

The 2017 size and shape of the public PSET system is illustrated graphically below, and shows that although there has been growth in TVET, the pyramid is still inverted, with university enrolment still outnumbering that of TVET and community education.



**Figure 3: Size of PSET system, 2017**

## TVET provincial enrolment

There are 50 multi-campus public TVET colleges with 264 campuses. Figure 4 shows the number of colleges (bar) and headcount students (line) by province in descending order of student headcount.

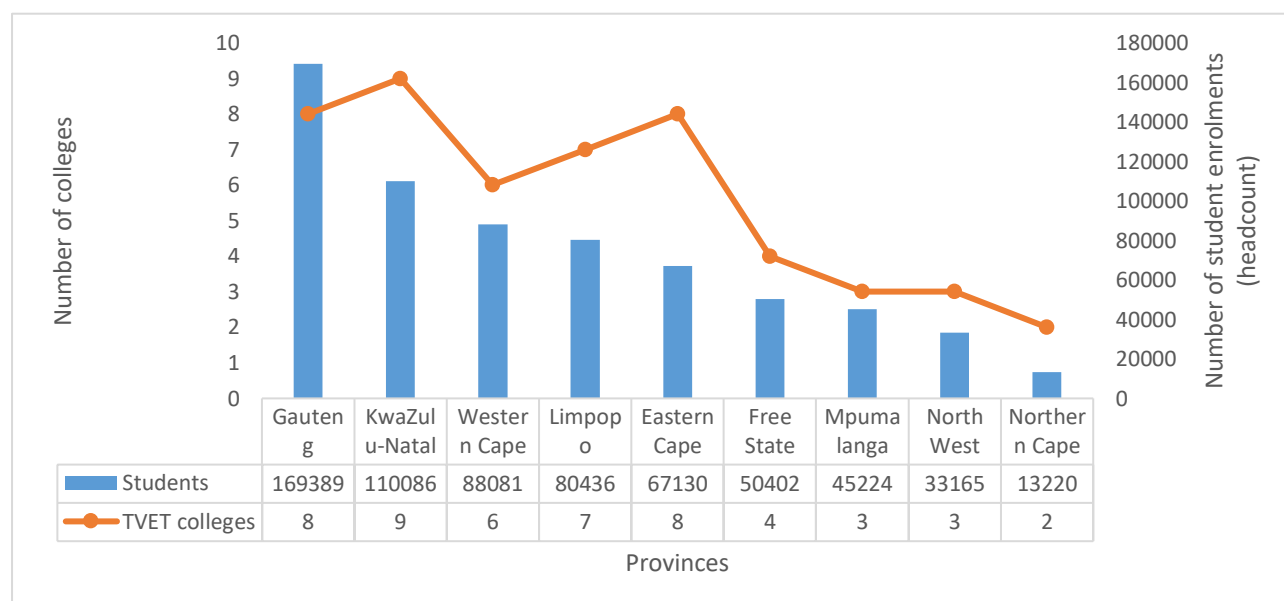


Figure 4: Number of colleges and headcount students by province in 2018 (DHET, 2020)

## TVET enrolments by qualification

The programmes and qualifications mix has shifted over time. DHET (2020) lists 19 NATED programmes and 18 NCV programmes for N6 and NCV4. Figure 5 shows that headcount growth has been driven largely by the NATED programmes, with a relatively smaller increase in NCV numbers and lack of any meaningful uptake of occupational qualifications whose enrolment has seen a decline in the last two years where data is available, though numbers have returned to pre-2015 levels in 2018.

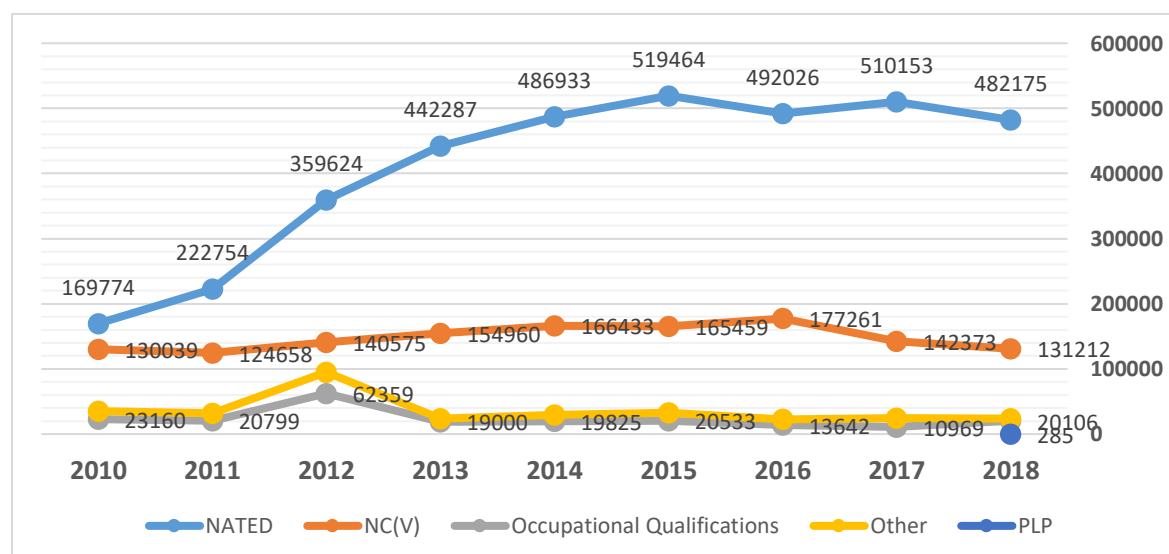


Figure 5: Relative enrolment by qualification type 2010 – 2018 (DHET, 2020)

The low enrolment in occupational programmes is concerning as it is a deviation from the policy intention in the WPPSET and the NSDP to increase occupationally directed programmes. For reasons well known, particularly the influence of funding on programmes provision, compared to NATED and NCV enrolment, occupational enrolment has constituted a very small fraction of enrolments in TVET over the years as indicated in Table 3. Though the occupational enrolment increased substantially in 2018 to pre 2016 figures, of a cumulative total headcount enrolment of over 4.554 million over the 6 years, enrolment in occupational qualifications in TVET colleges constituted only 3%<sup>2</sup> with a further 4% designated 'other programmes'. A small PLP component intake of 285 enrolments was included in 2018.

**Table 3: Comparing TVET enrolment across types of qualifications 2010 - 2017**

Year	Occupational Enrolment	NCV Enrolment	Nated N1 – N6 Enrolment
2010	23 160	130 039	169 774
2011	20 799	124 658	222 754
2012	22 402	140 575	359 624
2013	19 124	154 960	442 287
2014	19 825	166 433	486 933
2015	20 533	165 459	519 464
2016	13 642	177 261	492 026
2017	10 969	142 373	510 153
2018	20106	131212	482175

Source: DHET PSET Statistics 2017, 2019, 2020

Expansion in the provision of occupational programmes is regarded as critical to improving the responsiveness of the TVET sector.

Private colleges offer a larger number of occupational qualifications compared to TVET colleges, although NATED programmes still comprise a more substantial percentage of enrolments in private colleges. In 2017 40 577 students were enrolled in occupational programmes in private colleges. The research theme on private TVET colleges will enable a deeper understanding of key drivers of enrolment in these colleges.

Research on private TVET provision in South Africa is scarce, and the last research-based inquiry into the extent and nature of provision were the studies by Akoojee (2005) and the ETDPSETA (2011). Both studies were founded on a quantitative methodology comprising a survey of registered private providers whose contact details were included in the Register of Private TVET providers managed by the Department of Higher Education and Training (DHET). This study will continue with the quantitative methodology of a large-scale survey so that comparable data can be extracted across these differing time periods – 2005, 2011 and 2023 (the year this survey will be undertaken).

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<sup>2</sup> This reports on public TVET colleges only. Over the same period, the pattern differs at private colleges. At private colleges 51% of students enrol for occupational programmes, and 4% are NCV (DHET, 2019). Though private colleges account for 11% of enrolments, over the 2010-2017 period, private colleges accounted for 63% of occupational qualification enrolments.



## Programme Level Enrolments

The DHET statistics provide an overview of the size and shape of enrolments in TVET college qualifications. The NCV is typically treated as a 3 year programme with students enrolling at NCV2 and progressing through NCV 4. The NCV programme is divided into three levels, NCV 2-4. Progressive NCV level enrolments can be seen as an indicator of movement of students through the system. NATED enrolments are potentially less stable, and N1-N3 enrolments are limited to Engineering programmes. The NATED enrolments are included in Figure 6

In 2018 most NCV students were enrolled in NCV 2 with roughly equal numbers in NCV 3 and NCV4 (Figure 6). Tracer and cohort studies would need to be conducted to understand the movement of students from entry at Level 2 to Exit at Level 4.

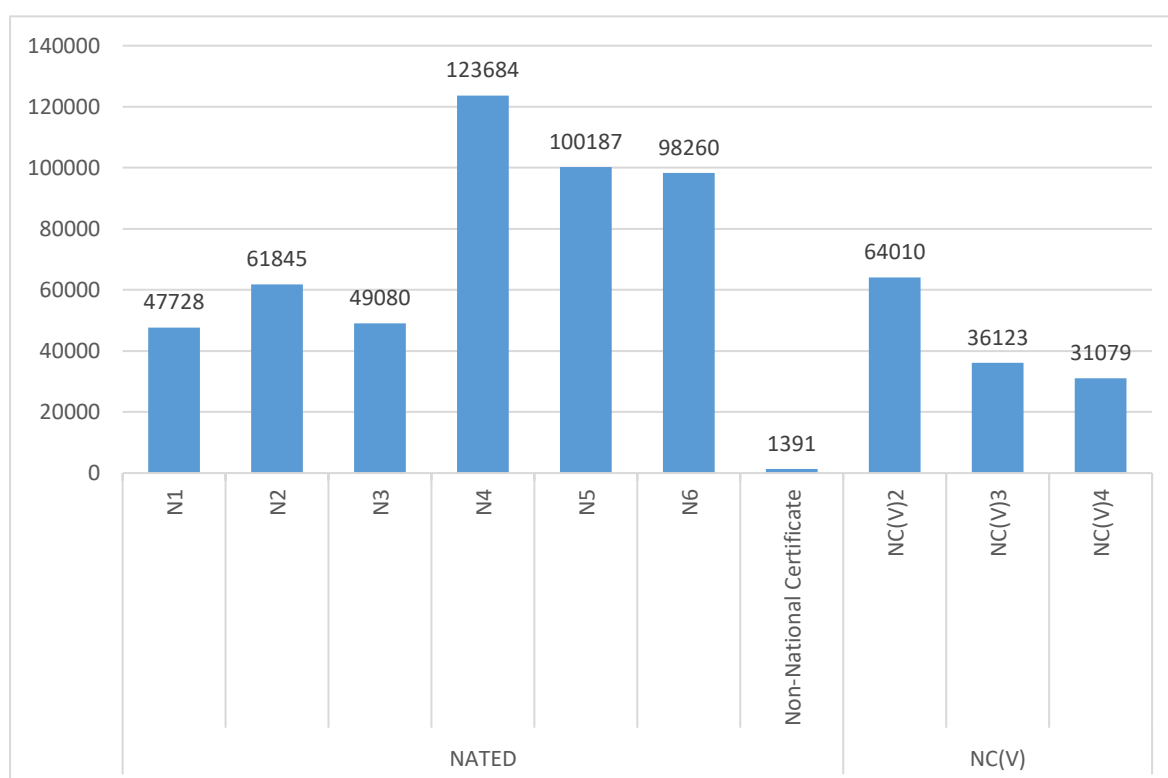


Figure 6: NCV and NATED enrolments by level in 2018

## TVET College FTE vs Headcount by Programme

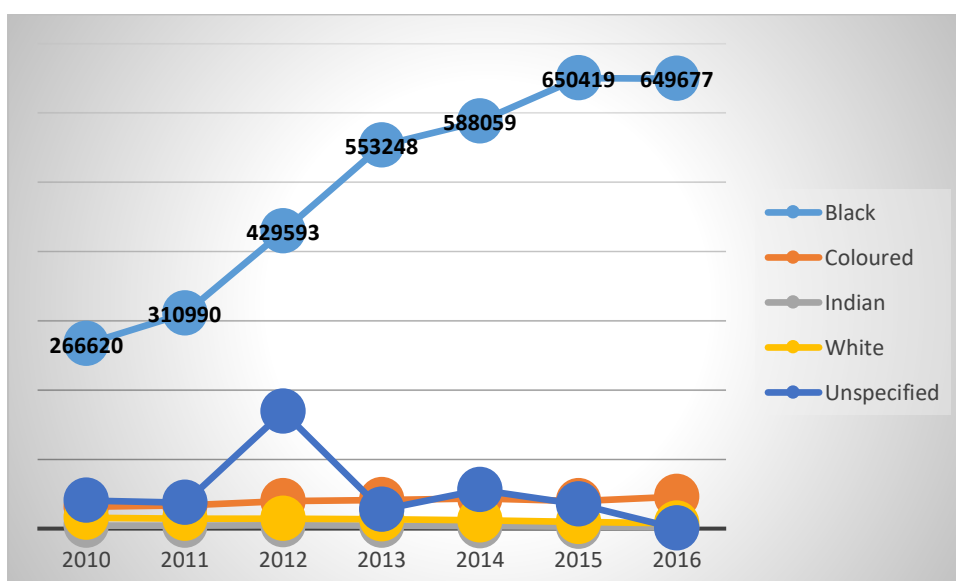
Full time equivalent (FTE) students have been less frequently referred to than headcount enrolments, and counting has largely been limited to the NCV and NATED programmes. Illustrative of FTE enrolments are the following figures for 2018 (DHET, 2020).

**Table 4: FTE enrolment for 2018**

Programme	FTEs	
<b>NCV</b>	121455	40%
<b>NATED</b>	184204	60%
<b>Total</b>	305659	100%

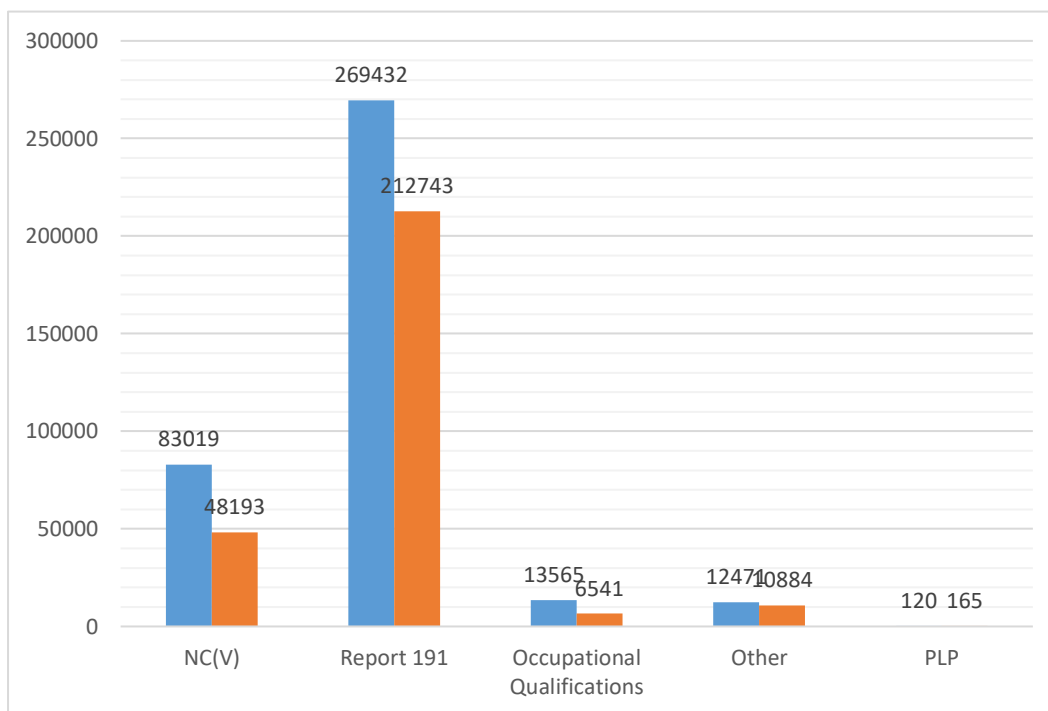
### Student enrolment demographics

Headcount enrolment has seen significant growth in the number of 'Black African' students both in absolute terms and in relation to other race groups, from 266620 to 649677 or from 74% to 92% between 2010 and 2016. This is illustrated in Figure 7. By 2016, Black African students accounted for 92% of the TVET population.



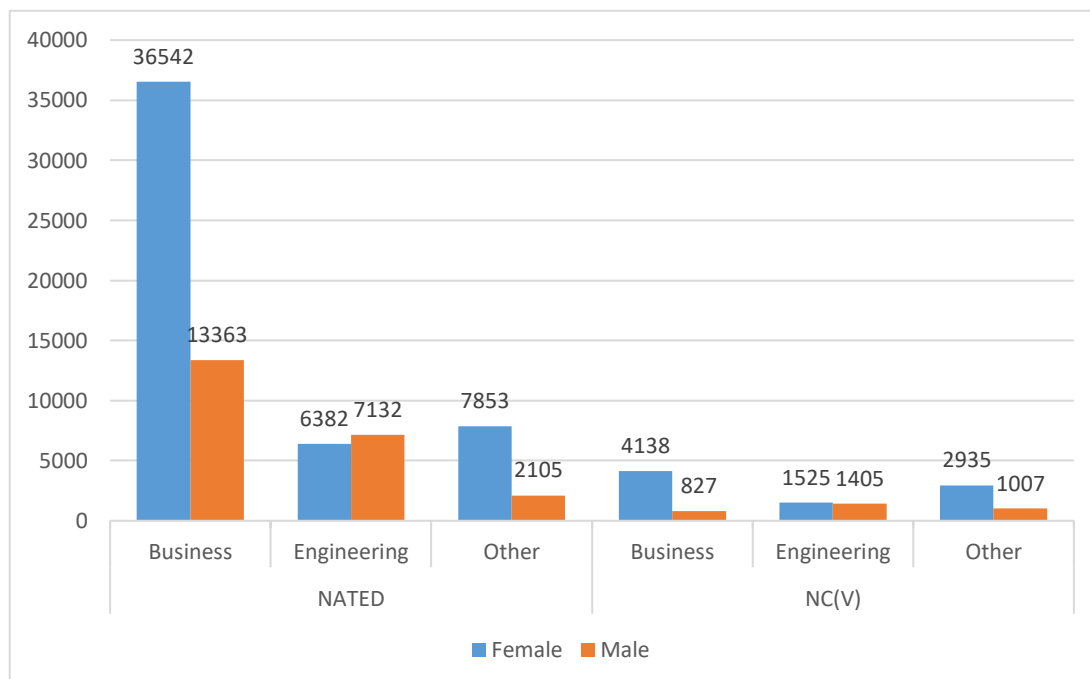
**Figure 7: student headcount by 'race' 2010 - 2016**

Student headcount enrolment has also included a higher percentage of female students across qualification categories. In 2018, about 58% of students were female as illustrated in the Figure 8. This trend occurred across qualification categories of NC(V), NATED and occupational qualifications.



**Figure 8: Gender ratio by qualification category in 2018 (DHET, 2020, p.32)**

Figure 9 shows the gender breakdown by field of study for NATED and NCV programmes (DHET, 2020, own calculations). This figure suggests that much of the female predominance in numbers is in Business related programmes and 'other' programmes (used here for the range of programmes that are not business or engineering related). Female involvement in the Engineering programmes is roughly similar to that of their male counterparts, suggesting that males do not dominate the Engineering field as much as is sometimes assumed.



**Figure 9: Gender breakdown by field of study N6 and NCV 4 completions in 2018**

## Student Success Rates

DHET statistics provide figures on numbers of students who have written and who have completed courses respectively. Reports have focused on key exit level examinations at NCV4, N3 and N6 level

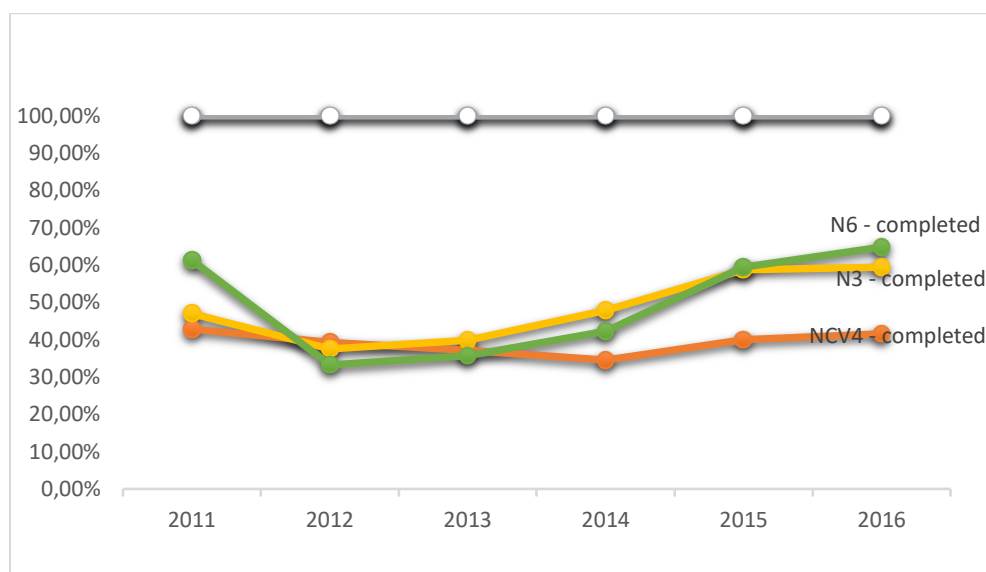


Figure 10: Pass rate for key exit level examinations 2011-2016

Figure 10 shows changes in the number of students who wrote and passed as well as percentage pass rates between 2011 and 2016 (disaggregated further in Figure 11). Colleges managed to sustain or improve performance over time, despite increasing numbers. The N6 programmes showed both the highest rate of improvement and the greatest growth in absolute numbers, and an increasing pass rate from 36% in 2013 to 65% in 2017. The NCV 4 programme also showed steady growth, but did not perform as well, however NCV pass rates have steadily been improving since 2014 after a period of decline.

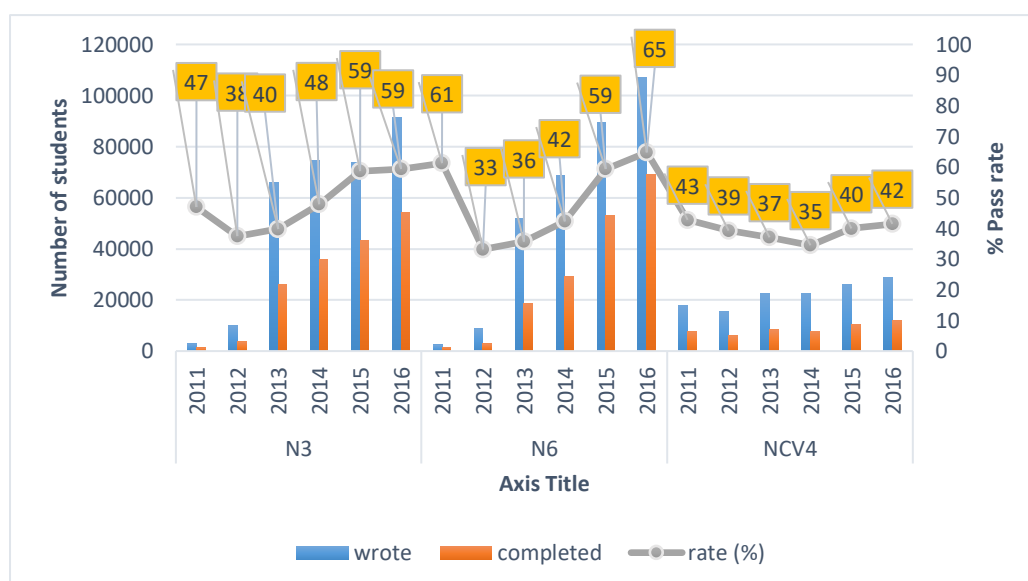


Figure 11: Number of students who wrote and passed examination by qualification type 2011-2016

A key concern within the TVET college sector which is causing certification bottle necks is assessment. According to a DHET concept note prepared for the TVET IMBIZO, the DHET manages examinations for NATED programmes, National Certificate (Vocational) NC(V) and the adult education General Education and Training Certificate (GETC). In total, these examinations constitute 1 800 papers, the largest in the country. In addition to presenting certification challenges, the huge scope of the external management of TVET examinations has led to a disconnect between assessment and teaching, as lecturers have not been given an opportunity to develop formative and diagnostic tests that they can use to assess their students' understanding to inform their teaching. The feeling is that there is need to internalize some of the exams so that they are set and administered by colleges, while DHET will manage and administer only the external examinations (DHET, 2017c).

### **Conclusions from the Statistics**

The WPPSET (2013) notes a commonly held concern about the tension between growth in student numbers and performance. In the period 2011-2018 however, public TVET colleges showed progress in both growth and performance, with pass rates improving at the same time as student numbers grew. This was despite indications that spending per headcount enrolment had decreased substantially, as well as the increased staff: student ratio, which is often associated with poor performance.

TVET can be seen from the enrolment statistics to be providing access to historically disadvantaged groups by race, gender and disability, indicative of a government redress agenda.

## **BUILDING THE LOCAL KNOWLEDGE BASE ON TVET**

The local TVET knowledge base in South Africa has been steadily improving since Wedekind's review (2008) that revealed an uncoordinated set of research outputs largely generated through research agencies and funded by external donors, resulting in so-called 'grey literature' and ownership of much of the intellectual property being held outside the country. At that stage there were few studies being driven by academic institutions, whether through commissioned research projects or postgraduate student research. This situation has been changing over the last 10 years, particularly with regard to universities increasing their numbers of masters and doctoral students undertaking research in TVET or post-schooling, and undertaking research projects in the field. The five-year DHET TVET Research Programme that commenced in 2019 is an example of a university driven collaborative research project that will produce knowledge on the local TVET college sector as well as broaden the pool of postgraduate researchers. In this section of the concept document we highlight the areas in South African TVET still requiring robust empirical enquiry, and which comprise some of the research questions in the TVET Research Programme.

### **INDIVIDUAL STUDENT UNIT LEVEL ANALYSES – ACCESS AND PERFORMANCE**

Whilst individual level student data exists, this has proven difficult to analyse. The PSET monitor suggests that before the operationalisation of the TVETMIS, per annum certification rates was the best measure available. In particular only pseudo-cohort analysis has been possible based on aggregate analysis of year on year records. Analysis of individual students by successive events such as enrolment, departure, retention, passing, progression and graduation has not yet been conducted. Such analysis would yield results in, for example, throughput rates, time to completion, repetition rates and so forth, as provided for by cohort or panel studies.

Current headcount measures do not cater for comparison between courses of different duration (and therefore repeated enrolments within a cycle by the same individual). For

example, limited analysis of student performance and enrolment by full time equivalent (FTE) has been done. Given the different FTE weightings of different courses, such an analysis potentially provides an improved basis for comparison between NATED and NCV enrolments for instance, or for estimating the staff: student ratio<sup>3</sup>. Similarly, counting per student may provide a better understanding of how many students are served by the TVET system.

There is considerable room for more fine-grained analysis of the data within the existing datasets. The relationship of redress, growth and performance to particular subjects and campuses for instance, may shed some light on the internal dynamics of system performance.

As indicated earlier, substantial data gaps remain within the existing data systems. Particularly, the National Learner Record Database (NLRD), although currently bogged by problems, for example missing records for the NSC and N4 – N6 which makes it impossible to track learner pathways, it nevertheless will remain an important source of information once all the data issues have been addressed. The NLRD will specifically be useful in capturing data on progression from TVET colleges to HEIs (DNA Economics, Mzabalazo Advisory Services and Social Surveys, 2018).

Systems performance data is currently recorded as a closed system. Thus correlational studies of impacting variables such as class size, teacher effects, peer effects, funding, student backgrounds and previous schooling, is currently limited. Some of this data may exist in other datasets, but the databases are not linked for a more coherent picture. In this sense the PSET monitor and the report on macro-trends in PSET have begun to point to locating PSET data within broader datasets such as the population census, income brackets, PSET funding and so on.

More information is needed on the impact of curriculum, society and institutions on student performance, as well as more qualitative information on student trajectories, motivations and life decisions. Some research on these matters has already commenced, with tracer studies of NCV students having been conducted by SSACI (2016/2017); and by the IPSS (See Papier et al, 2018). With regard to vocational student motivations, life decisions, and outcomes, Powell and McGrath (2019) have written cogently on reimagining the purpose of VET and skills development among young people, where VET offers the possibility not only of work, but also for students to 'live lives they have reason to value' (p.13).

## **TVET GOVERNANCE AND MANAGEMENT**

The DHET took over the functions of TVET Colleges from provincial authorities as part of the function shift, a process which took considerable time to complete. The VCET Branch was disbanded at the end of 2015/16 financial year and the Department subsequently created two new branches, of which Technical and Vocational Education and Training (Programme 4) is one.

WPPSET (2013) reiterates the need to strengthen TVET colleges in the country through the improvement of management capacity that includes planning, financial and human resource management. The policy also proposed the establishment of the South African Institute for Vocational and Continuing Education and Training (SAIVCET) to provide support to TVET institutions, community colleges and skills development providers in the country. To date there has not been much clarity on this institution and its functions, purportedly due to funding constraints, but it is understood that the National Skills Fund has made a grant available for a unit in the Department to establish the foundations of SAIVCET for which job descriptions have been developed, and a fund manager has been appointed. Nonetheless, the remit of the

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<sup>3</sup> This would distinguish between colleges with crowded classrooms, and colleges with 3 intakes per year. Anecdotal information suggests that there are colleges with high staff:FTE ratios, and that high staff:student ratios are not attributable to the increase in semester and trimester programmes alone.

SAIVCET has not been widely disseminated and there are varied interpretations of what it is meant to do.

Although governance is often discussed in terms of the functioning of the board and its committees, in the college context governance is a wider matter that involves mechanisms of accountability that impact on the function of the college, including in relation to teaching and learning, and the performance and wellbeing of students. For the purpose of research in this areas, the term governance is used to capture this wider understanding of the term.

The King reports (the latest being King 4) define the role of governing boards as being in 4 equally important areas of work. These are:

- i. Strategy: steering the organisation in the agreed direction
- ii. Policies and plans: approval of policies and plans to support strategy implementation
- iii. Accountability: ensure accountability for organisational performance
- iv. Oversight: Oversee and monitor implementation

King provides a sound conceptual framework as it draws on global research and has the support of large corporates and both public and private sector organisation. The basic principles are now normative in nature and can be taken as providing a framework for developing good governance practice in any organisation requiring a board to function.

## **TVET QUALIFICATIONS AND PROGRAMMES**

A key characteristic of the public TVET College sector is that TVET College programmes interface with all three sub-qualifications frameworks (and their associated quality assurance agencies Umalusi, HEQC and the QCTO), leading to a range of quality assurance demands which are at times conflictual.

Mainstream programmes currently funded by the DHET for public TVET Colleges are the National Certificate Vocational (NCV) and the NATED 191 programmes. NCV programmes are located at NQF Levels 2-4 (in parallel with general schooling levels Gr 10 through 12) and are quality assured by Umalusi. For the NATED Programmes, N1-N3 are quality assured by Umalusi, while N4-N6 programmes are quality assured by the QCTO. Both of these mainstream qualification types have been the subject of two curriculum reviews under the Department of Labour and DHET respectively but the results of these reviews have not been made public. The WPPSET (2013) and subsequent national discussions have problematized the primary purpose of TVET colleges and its target audience which should drive the qualification and programme offerings in colleges, but the limited research conducted to date has not been conclusive in this regard. Views expressed across the TVET domain have ranged from colleges being more narrowly focused and workplace directed to articulate better with employment opportunities, to colleges having a wider array of offerings that provide students with options for employment or into higher education qualifications. Debates here have circulated around the depth and breadth of knowledge vis a vis practical application and workplace experience. A number of TVET Colleges are offering Higher Education Certificates (Level 5) by agreement with Universities of Technology, to provide access to diplomas and postgraduate diplomas, but these are often dependent on institutional champions rather than systemic access or articulation between college and university programmes.

Critical research gaps in TVET College teaching and learning include wider destination studies that track TVET College graduate pathways and can inform curriculum issues; student focused research into their college or workplace experience; college qualifications and programmes

interface with other learning pathways; and exit trajectories of TVET college students. The identification of demand-driven education and training and ways in which business and industry can inform future qualifications, such as the impact of current Centres of Excellence on student employment and employer experience of college graduates, are areas for further research.

## **STUDENT SUPPORT**

While pass rates have improved over time since 2009, reasons for the low pass rates have continued to be debated and attributed variously to the onerous requirements of the qualifications themselves, the levels of difficulty of individual subjects, poor academic preparedness of students, lack of appropriate student support, inadequate teacher preparation, unsuitable pedagogies for vocational learning and so on. Relatively few empirical studies into the causes of TVET students' poor performance have been conducted (see FET Institute, 2013a; Papier, 2009), hence the emphasis on student attrition, student success, and student satisfaction within the TVET Research Programme.

Most colleges have managed to establish student support services to promote student success and wellness, in spite of funding constraints. The definition of student support services is wide-ranging, and includes inter alia academic support, financial support, and psycho-social support. Government policy has differentiated student support services according to stages, namely, services at 'pre-entry' (including career guidance and orientation); services provided 'on-course' (for instance academic support, tutorials, job readiness skills); and 'exit level' support such as placement, job-seeking or employment support (DoE, 2008, p. 5).

A number of historical inequities still manifest in uneven student support services across colleges though (DHET, 2013). Rural institutions may have weaker infrastructure and more limited staffing, and are thus not able to offer the range of offerings or services that students desire. Socio-economic surveys have found that TVET students are amongst the poorest in the country (DHET, 2013) and that more opportunities exist for urban than for rural students, hence the need to provide a better classification of colleges in terms of the support that they might need.

Support services offered (though not standardised or generally accessible) include academic support (particularly in the language of instruction, Mathematics and ICT); student financial aid; and finding workplaces for practical experience or employment on completion of studies. Some colleges have been able to offer counselling services while others rely on referrals to public facilities that could take time. The official policy framework holds that students in need of psycho-social support have to be referred to relevant institutions and to trained therapists (DoE, 2008 p. 7). Where such referrals were either not possible or not done, support staff reported that they felt emotionally overburdened and inadequately trained to deal with psychological issues (Fryer, 2014: 90). In addition another study found that students did not always utilise support services as they often lacked the confidence to ask for help, or to do so in a language which is not their home language (Jeffery, 2015).

## **TVET COLLEGE STAFFING**

### **College lecturers**

In 2016, there were 12 431 lecturers employed in public TVET colleges. The DHET Report (2016:5) 'Qualification Profile of Lecturers Employed in Public Technical and Vocational Education and Training Colleges in South Africa' categorises lecturers into four groups:



**Unqualified lecturers** - those who do not hold an academic qualification that represents at least three years of post-school full-time study and deemed to be at NQF level 6 or above, nor do they hold a professional (teaching) qualification.

**Academically qualified but professionally unqualified**; Lecturers who do hold an academic qualification that represents at least three years of post-school full-time study and deemed to be at NQF level 6 or above, but who do not hold a professional teaching qualification.

**Academically qualified and professionally qualified, but for the schooling sector.** These are lecturers who trained and qualified as schoolteachers, but who are now teaching in a TVET college.

**Academically and professionally qualified as a college lecturer.** These are lecturers who hold academic and/or professional qualifications that enable them to be recognised as fully qualified to teach in the college sector.

### Staffing statistics

The following table shows the number of staff in public TVET colleges in 2016. Of the 12431 lecturers employed in the college sector in 2016, 8375 lecturers or 67.4% of the cohort provided qualification information for purposes of the DHET report. Of the 8 375 lecturers in the sample:

**Table 5: Number of TVET lecturers by qualification status (n = 8375)**

<b>Academically and Professionally qualified as a college lecturer</b>	<b>Academically and professionally qualified as a school teacher</b>	<b>Academically qualified/ Professionally unqualified</b>	<b>Unqualified</b>
400	2774	3037	1726

Source: DHET Report (2016)

- 400 (4.8%) were deemed to be academically and professionally qualified as college lecturers.
- 2 774 (33.1%) were deemed to be academically and professionally qualified for the schooling sector.
- 3 037 (36.3%) were deemed to be academically qualified but professionally unqualified.
- 1 726 (20.6%) were deemed to be unqualified.
- 438 (5.2%) were undefined.

**Table 6: Number of college staff by gender across all staff categories in 2016**

<b>Staff Category</b>	<b>Female</b>	<b>Male</b>	<b>Total</b>
Principal	14	29	43
Vice-Principal	52	71	123
HOD	383	413	796
Education Specialist	202	206	408

Lecturer	5 936	6 087	12023
Support	4 187	2 850	7 037
Other	2 305	1 510	3 815
<b>Total</b>	<b>13 079</b>	<b>11166</b>	<b>24 245</b>

- Of a total staff complement of 24 245, 12 431 (51.3%) were lecturers, management staff made up 4.0% (962) and support staff made up 29.0% (7 037).
- Of the lecturing staff, males constituted 50. 6% (6 293) and females constituted 49.4% (6 138).
- Of the management staff, 53,3 % (513) were male, and 46.7% (449) were female.
- 40.5% (2 850) of the support staff were male whilst 59.5% (4 187) were female.

**Table 7: Number of staff by population group across staff categories in 2016**

Staff Category	African Black	Coloured	Indian	White	Total that declared pop. des	Other	Total who responded to survey
<b>Principal</b>	32	4	2	4		1	43
<b>Vice-Principal</b>	86	14	4	19	123		123
<b>HOD</b>	667	24	4	91	786	10	796
<b>Education Specialist</b>	320	15	6	53	394	14	408
<b>Lecturer</b>	8 307	1 350	514	1 551	11 722	301	12 023
<b>Support</b>	5 297	941	262	329	6 829	208	7 037
<b>Other</b>	3 063	357	40	324	3 784	31	3 815
<b>Total</b>	<b>17 772</b>	<b>2 705</b>	<b>832</b>	<b>2371</b>	<b>23 680</b>	<b>565</b>	<b>24 245</b>

African Blacks by far made up the largest proportion of the 12 431 lecturing staff who declared population designation, constituting: 69.4% (8 627); followed by Whites: 12.9% (1 604); Coloureds: 10.9% (1 365) and Indians: 4.2% (520). A similar trend existed for staff in the management positions.

### **Professionalisation of college lecturers**

The White Paper (DHET, 2013) reiterates the need to improve the quality of teaching and learning in TVET colleges, which includes having trained and professionalised teaching staff.

The minimum qualifications for college lecturers as stipulated in the Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (2013) are still being developed and rolled out. Considerable support for the development and implementation of new TVET lecturer qualifications has been provided by the 5-year (2015-2020) DHET-EU TLDCIP, the College Lecturer Education Project (CLEP). To date the University of the Western Cape Institute for Post-School Studies has offered the first Postgraduate Diploma TVET (Level 8) as a 2 year part-time blended learning programme to college lecturers since 2017, and has graduated a first cohort, some of whom have entered Masters studies in TVET in 2019. The Nelson Mandela University commenced in 2019 with the Advanced Diploma TVET, an initial teaching qualification, to a first cohort of college lecturers in a distance teaching format, and the Cape Peninsula University of Technology is preparing to roll out its Diploma in TVET Teaching in 2020. There has also been an uptick in the number of postgraduate qualifications focused on TVET, with funded Masters and Doctoral candidates under the new PSET SARCHi Chairs, and SETA funded Chairs in the domains of TVET, CET, and Work and Learning.

In the DHET's Revised Strategic Plan 2015/16, strategic objective 7.1.1 aims to address human resources issues such as staffing, human resources development, performance management and labour relations, however most TVET colleges still face the challenges of understaffing and inappropriately qualified staff, especially lecturers. Many lecturers still need exposure to current changes in industry and up-skilling to be able to impart relevant knowledge to the students. According to the Strategic Plan 2015/16, by 2016 college lecturers should have undergone prescribed hours of industry-based training, but this has not yet been initiated across the board due to the unavailability of funding allocated for this kind of training for college lecturers and difficulties associated with time-tabling and replacement lecturers.

The TVET Research Programme therefore includes a research focus on college lecturers in terms of their initial and continuing professional development, their emerging identity as vocational teachers and industry practitioners, and their pathways into college teaching.

There is also a need to research post-provisioning norms within the TVET College sector as well as per capita costs of programmes in order to ascertain ways in which TVET College lecturers are recruited and retained within the public TVET sector.

Having outlined the many aspects of South African TVET colleges on which deeper and wider information is required and to which knowledge base the Research Programme intends to contribute, we now take a look at what is currently under researchers' gaze further afield. The next section attempts to provide insight into the issues that are being debated and researched internationally.

## **CURRENT ISSUES IN VOCATIONAL EDUCATION AND TRAINING AROUND THE WORLD**

This section of the concept document highlights recent research in VET/TVET internationally, which is suggestive of the kind of questions that are still prevalent in the developed and the developing vocational education and training sphere.

Already in 2012 the Third international Congress on Technical and Vocational Education and Training (TVET) in Shanghai used the term 'transformative TVET', signalling the broader role of TVET in human development. The UN's sustainable development goals (SDGs) also included a focus on vocational education and training for human and sustainable development (UNESCO, 2012), echoing that broader concern. The past decade has seen an increasing emphasis by governments on TVET/VET as part of the solution to the problem of youth

unemployment, uneven economic participation, and poverty, inter alia. Powell and McGrath (2019) mention that:

‘VET is sometimes talked about as an adaptive layer between education and the economy. As the fields of education and the economy are constantly in flux, the VET system must reposition and reinvent to remain effective as a bridge between them’ (p.3).

In spite of emerging arguments to the contrary, VET remains rooted in the discourse of human capital theory which has a strong emphasis on potential gains to the economy and productive work. To a large extent most country policies on the African continent and elsewhere adopt this paradigm, although it could be argued that there is the recognition in policy of the broader social development gains to individuals and their communities accruing from participation in VET programmes. In the South African context, attempts to increase participation in TVET is taking place in the midst of massive inequality, and much is being made of the promise and possibility of a transformed TVET system for the millions of youth and adults who operate on the margins of our education and training system. This concept note will not delve into the various philosophical and conceptual contestations around the ultimate purpose/s of TVET. The aim of this section is to note the discourses around which our TVET Research Programme are likely to be positioned and from where our research will have to speak for itself.

Instead of trying to forage for relevant research from disparate resources where they are variously located internationally, we decided to use the latest Springer Handbook of Vocational Education and Training (2019) as a major reference point for information on trends and issues in vocational education and training across the world. The Handbook which consists of two volumes and nine parts, contains a collection of around 100 recent articles of research and scholarship (approx. 1800 pages) by established scholars from mature and developing TVET systems in 27 countries across the globe, including South Africa where at least 10 of the articles are by South African authors who are active in TVET and related research. The editors of the Handbook state in the preface that: ‘(T/VET) students have to be prepared, inter alia, to cope with change; to grow their knowledge, skill, and creativity; and to contribute to developing new products and processes’ (McGrath, Mulder, Papier, and Suart, 2019, p.vii). Taking a cue from the direction in which TVET is moving globally, in this concept document we highlight salient issues in each of the nine parts of the Handbook that may have relevance for TVET in South Africa going forward. Each of the numbered parts has an overarching theme for the articles contained therein, and the theme title is given in brackets. It is these themes that are strongly indicative of the topical issues being debated and researched in T/VET beyond our geographical boundaries.

In the opening section, (Part 1: ‘The changing world of work’) in its first chapter, Wilson argues that ‘skills forecasts are now a key element in economic and labour market policy in many parts of the developed world, they also provide a benchmark for debating whether the education and training system produces skills appropriate for the labour market’ (p.3). The article speaks to ‘drivers of change’ in the labour market, and issues related to skills forecasting which are topical in the South African TVET context right now as it grapples with questions of demand and supply, relevance, and so on. The rest of the articles in Part 1 deal with TVET for a digitised world; skills development initiatives in India which are making big strides; ICT developments in Russia; production work of the future and automation (Germany); learning in informal economies (Africa); artisans and wider capabilities in automotive training (South Africa); implications for TVET of migrants in the labour market; the 4<sup>th</sup> IR and its impact on the world of work (South Korea); and, greening the economy and issues for skills development (Hong Kong).

It is clear from the abovementioned articles by respected academics that the world of work is changing in line with an emerging 4<sup>th</sup> industrial revolution, and that wherever TVET may be

situated, it will have to contend with preparing students for a new reality that includes automation, digitisation, artificial intelligence, climate change, greening and the like.

Part II (Skills for Sustainable Human Development), turns its gaze on the learners/students in TVET/VET, and what transformative learning environments might mean in terms of pedagogy, curricula, assessment regimes, and so on. The capabilities lens is much in evidence in many of the articles in this section, and refer to issues of learner choice, agency, learner voice, human values, learner aspirations and social goals aside from only the economic perspective. However, there are counter arguments presented to the capabilities approach presented as well, particularly in a South African article which holds that the capabilities approach has a 'tendency to overlook political economy questions that are related to changing labour processes, power, and the reproduction of class inequalities....(nonetheless) the historically close relationship between VET and the world of work through structured pathways to employment is undergoing fundamental shifts' (p.270).

Questions pondered in part II are also those related to sustainable development, and to the employability agenda of TVET, particularly in relation to definitions of 'work', for instance what is defined as 'valued work', 'decent work', 'informal work', or 'real work'? This section reveals the contestation between predominantly a human capital approach to skills development, and a capabilities, human development driven approach. Both of these perspectives have far-reaching implications for TVET and its desired outcomes, but there is also the clear recognition that contexts and structures matter a great deal, and influence how agency is able to navigate these.

Part III (Financing Technical and Vocational Skills Development Reform) may be instructive for policymakers and TVET authorities grappling with issues of systems reform, financing large scale TVET, and competing education and training priorities. Two articles in this section also deal with policy development on workplace based learning (South Africa), and integrating WBL into formal VET (Switzerland), and the much debated (in SA) 'dual learning' model of apprenticeship training that is characteristic of countries like Germany.

In Volume 2, Part V (Vocational Learning) a range of pedagogical principles that underpin teaching and learning in different contexts in VET, are shown to encompass new paradigms that relate to a changing world, and changing work and learning conditions. Concepts debated in some of the articles here are that of creativity development, shaping competence, recontextualisation of knowledge and so on. Theorisation in these articles cover important debates in the VET literature with regard to the nature of vocational knowledge in terms of traditions in the UK, and in China. Scholars from the realms of vocational theory and practice (inter alia Bernstein, Barnett, Lave and Wenger, Agyris and Schon, Dreyfus, Guile, Fenwick, Young, Muller) serve to remind us of the roots of modern VET organisation and the epistemological paradigms that we as researchers may consciously or unconsciously adopt as basic premises for our research.

Part VI (Competence and Excellence), is concerned with the domain of competence and competence development, which is a major component of learning for work and skills development. However, competency based training appears to be dependent on a well-developed industrial base conducive to practice based training. It is also clear from articles emanating from developed TVET systems, that competency based systems are sophisticated and depend on carefully described competence taxonomies and their assessment. Distinctive from earlier and outmoded outcomes based discourses critiqued for encouraging mediocrity, these competency frameworks deliberately include the achievement of excellence, and the criteria for such performance to be recognised. World skills competitions, (in which South African TVET colleges have participated and been successful at), are seen as a means to promoting vocational excellence as well.

Part VII (Assessing learning outcomes in vocational education) points to the need for distinctive and appropriate assessment measures in VET that relate to competence development and achievement. It is recognised though, that more research is needed in the field of VET assessment, including the concept of self-assessment which learners may need in the workplace where self-reflection and self-regulation may be called for. The arena of carefully structured professional competence assessment diagnostics still requires much consideration and research if it is to be applicable in different contexts.

Part VIII (Supporting learners) looks at systems, processes and pedagogies for learner success, and takes a holistic view of what VET learners might need to be retained in their learning programmes, as well as to succeed in their studies. In this regard Zepke (p.1538, 1539) speaks of a 'success framework' and a 'pedagogy for success', as well as what these might mean for learning providers and facilitators in order for them to be 'enabling' of learner success.

In Part IX (VET Teacher/Trainer Education), a section edited by Wedekind (a South African TVET expert now located at Nottingham University in the UK), the various articles address the training of VET teachers from the occupational as well as the disciplinary/didactic perspectives. Comparative models of professional teacher development that are drawn from Australia, Zimbabwe, Switzerland, USA, Russia, Mexico, India, and the UK, suggest similar challenges and dichotomies such as those faced in South Africa, in relation to vocational teacher development and building a professional cadre of educators for this sector. In the case of India, for example, the article has a familiar ring when the author notes that:

'The upgrading of VET teacher education by offering academic programs combined with practical experience in the world of work on the one hand, and a proper VET research at universities and other high-ranked research institutions on the other hand are highly important into the future' (p.1744).

College lecturer initial training and ongoing professional development constitutes a significant element of the DHET TVET Research Programme, and this chapter in the Handbook will no doubt be instructive for South African research in this regard.

## CONCLUSION

TVET Colleges are regarded as the institutions that will provide the intermediate skills that are catalytic to addressing the skills shortages in the country, to jump start economic growth. The expansion of the TVET sector envisaged in the WPPSET and the NDP should be matched by improvements in success of students in the sector. For this to happen, systemic weaknesses need to be acknowledged and addressed, and the utilisation focused approach suggested in this concept note for the Research Programme will enable informed decisions to be made about how to improve the sector in the areas of planning, data, teaching and learning and all the areas addressed in the implementation plan for the white paper. The Research Programme provides an opportunity for data to be fed back into the sector to improve implementation of programmes in the implementation plan. The issues that the Research Programme is focusing on are issues that other TVET sectors are grappling with internationally, and the programme will no doubt contribute to the knowledge base not only in South Africa but internationally as well.

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