Institutionalising Tracer Studies to Assess the Impact of Workplace-based Training: Reflections on Feasibility
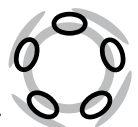
Angelique Wildschut, Glenda Kruss, Mariette Visser, Tamlynne Meyer, Azinga Tele, Jennifer Rust and Zinziswa Hlakula

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ABBREVIATIONS AND ACRONYMS

CATI	computer-assisted telephonic interview
DHET	Department of Higher Education and Training
DoL	Department of Labour
FET	further education and training
HE	higher education
HEMIS	Higher Education Management Information System
HSRC	Human Sciences Research Council
IT	information technology
LMIP	Labour Market Intelligence Partnership
NDP	National Development Plan
NQF	National Qualifications Framework
NSDS	National Skills Development Strategy
NSF	National Skills Fund
PoPI Act	Protection of Personal Information Act
PSET	post-secondary education and training
QLFS	Quarterly Labour Force Survey
SAQA	South African Qualifications Authority
SASAS	South African Social Attitudes Survey
SES	socio-economic status
SETA	sector education and training authority
TVET	technical and vocational education and training
WBL	work-based learning
WIL	work-integrated learning
WPBL	workplace-based learning
WPL	workplace learning

PREFACE

In 2009 the South African government administration, informed by a results-focused philosophy, identified 12 priority outcomes for the country. Outcome 5 refers to 'a skilled and capable workforce to support an inclusive growth path', and the delivery of this outcome is led by the Minister of Higher Education and Training. Delivery Agreement 5 consists of three parts, with Output 5.1 committing the Department of Higher Education and Training (DHET) to establish a credible mechanism for skills planning, in collaboration with 20 national and provincial ministries. The DHET commissioned the Human Sciences Research Council (HSRC) to support the DHET in establishing a credible institutional mechanism for skills planning (Memorandum of Agreement between the DHET and the HSRC, February 2012). Thus the Labour Market Intelligence Partnership (LMIP) project, with six themes of research, was established.

The objective of one of the research themes is to obtain a better understanding of the pathways and transitions undertaken by young people through the education and training system into the workplace. The key question underpinning this work is: What are the dynamics of access, progression, graduation and labour market destinations along various education, training and labour market trajectories, and how can this knowledge inform skills planning in South Africa? The research therefore collected and analysed data which then provides crucial information on the following:

- Understanding the extent to which **access** is conditioned by socio-economic factors, the quality of primary and secondary schooling, as well as spatial and demographic characteristics. In particular, it is important to know which barriers affect young people who successfully finish their schooling.

- **Pathways** or trajectories through the secondary school and post-school sector refer to the choices that students make in terms of institutions, subjects, degrees and specialisations.
- **Transitions** from and through education and training into the labour market are the final step in the progression sequence. Given the large investments (at both the household and government levels) made in training and higher education, the successful matching of available skills to the demands of the labour market is of significant interest in South Africa.

The post-school education and training landscape in South Africa consists of a diverse range of sectors and institutions. These include: Adult Basic Education and Training (ABET) centres; Technical and Vocational Education and Training (TVET) colleges; workplace training programmes (learnerships and apprenticeships); as well as traditional, comprehensive and universities of technology. All of these components of the post-schooling system are of vital importance to the supply of skills to the labour market and the broader South African economy, and understanding the issues of access, pathways and transitions will provide valuable information for skills planning.

A number of research studies were conducted within this theme of research. The key questions that each of the studies attempted to answer is reflected in the following topics:

1. What is the progression, graduation and destination of secondary school students?
2. How matric results influence university access, field of study and progression through to university.
3. What are the school-to-work transitions in the National Income Dynamic Study?

4. What are the university graduate destination outcomes: The Eastern Cape study on transitions to the labour market
5. Assessing the usability of graduate destination surveys for the analysis of labour market outcomes.
6. Scoping for a tracer study of the education and training and labour market outcomes of workplace training programmes.
7. What are the pathways of TVET college learners through the TVET colleges and beyond?
8. Who accesses adult education programmes and where do they progress to: An exploratory tracer study on community education and training centres.

EXECUTIVE SUMMARY

Labour market and education and training inequalities and failures have made the successful transition from education and training to the labour market or gainful and meaningful work a serious policy concern in a number of countries (Piopiunik & Ryan 2012). 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 post-secondary education and training (PSET) system and, particularly, sector education and training authorities (SETAs[1]) in directing and disbursing funds in order to develop skills that are needed in the South African labour market. However, this is often a very difficult or impossible task for officials, for, at all levels (national, sectoral, provincial and local), we lack quality centralised, consolidated and appropriate data sets that can assist in answering the critical question of whether these investments represent value for money. This is particularly the case regarding workplace-based learning (WPBL), where there is a paucity of integrated data sets on enrolment, throughput and completion, and, most significantly, transition to the workplace from such programmes.

Based on this context, the main objective of the present project was to scope and consider the feasibility of institutionalising tracer studies[2] relating to WPBL programmes. The present report engages with this objective in the following ways:

1. **Firstly, it evaluates tracer-type research into different WPBL programmes being undertaken by the SETAs**. This will assist in ascertaining the structures and capacities already in existence that can be built on in order to facilitate institutionalisation, but also highlight the current gaps that need to be filled in strengthening this capacity. The report draws on interviews with key stakeholders so as to assess the dominant perspectives on the viability of institutionalising tracer studies across the PSET system in general, but also draw out insights related particularly to WPBL.

2. **Secondly, we evaluate the quality of SETA administrative data sets that capture information on all individuals registering for, and completing training in, programmes that the SETAs fund**. In the report, we refer to these as population databases, and they are critical for constructing the contact data sets that facilitate tracer studies. The report also highlights how these serve as critical information systems that illustrate the outputs and outcomes of different SETA programmes.

3. **Thirdly, we use findings and data emerging from an earlier project (Kruss et al. 2012) undertaken by the Human Sciences Research Council (HSRC) to assess the impact of learnerships and apprenticeships during the period of National Skills Development Strategy II (NSDS II) (2005–2010)**. The findings are then used to reflect on and illustrate the types of insights that are possible through using a tracer-study methodology to assess the impact of WPBL. We use the types of questions of impact that the SETAs and the government are currently faced with in order to frame this discussion and as a way to illustrate the usefulness of the methodology.

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1   While the focus in this report is on the SETAs, a portion of 20%+ of the skills levy is processed through the National Skills Fund (NSF), and the same questions concerning accountability would apply equally to the NSF. Bearing in mind that much of NSF funding is developmental seed funding for greenfield projects, it would also be important to ask how many NSF projects have become self-sustaining.

2   The methodology of educational pathway or tracer studies is typically longitudinal surveys of a cohort, which track the individuals' progress through a particular form of training, or the final years of schooling, into post-schooling education and training and the workplace.

4. **Lastly, we present the methodology and set of research instruments that can serve as a guideline and template for the development of tools for assessing the impact of a range of WPBL programmes across the system**.

A key question that remained regarding the project was whether the particular methodology outlined in the scoping exercise could be extended to a broader range of WPBL programmes. In reflecting on this question, we indicated that government officials should consider the following principles:

- **Length of the programme:** It is very difficult to credibly assign a particular labour market outcome to participation in an internship or a skills programme, because such internship/skills programme might be very short-term. Variables other than participation in the programme might have been more predictive of the labour market outcome. In longer/full education and training programmes, such as learnerships and apprenticeships, it considered more reasonable to expect participation in the programme to have played a predictive role in the eventual labour market outcome.

- **Focus/purpose of the programme:** Here, one needs to consider the comparability within the range of WPBL programmes. For example, in what circumstance is it reasonable to compare the outcomes of a learnership with those of an internship? Both are categorised as a form of WPBL, but a learnership is a full education and training programme; hence it can be argued that an internship can merely be a mechanism to more effectively support transition into the labour market.

- **Ensuring consent:** The report highlights the consent issue as a possible stumbling block

in the institutionalisation of tracer studies across the system. This is an issue that might be facilitated by the coordination of consent for tracer studies across the PSET system. Although the Protection of Personal Information (PoPI) Act does give the individual rights over their personal information, the same Act does indicate that if the use of personal information is for the greater good of the country (such as is the case regarding skills planning and tracer-based impact studies), then the PoPI Act Regulator may approve the use of such information. The Department of Higher Education and Training (DHET) may need to consider approaching the Regulator in this regard.

- **Ensuring employer buy-in:** Institutionalisation would need to ensure that employers see the value of tracer studies as well. This would greatly assist tracers entering the workplace.

- **Improving data consistency:** As the report notes, there have been numerous improvements since 2009/10, and it would therefore be important to continue with the strengthening of administrative data gathering and maintenance.

Recommendations

Recommendation 1: Towards institutionalising tracer studies across the PSET system
- **Recommendation 1.1:** Continue strengthening PSET administrative data gathering and maintenance of data sets.
- **Recommendation 1.2:** Foster employer buy-in for the institutionalising of tracer studies in the workplace.
- **Recommendation 1.3:** Coordinate consent for tracer studies across the PSET system.

Recommendation 2: Towards assessing the labour market impact of a wider range of WPBL programmes

- **Recommendation 2.1:** The purpose of different WPBL programmes needs to be taken into account when labour market impact is assessed.
- **Recommendation 2.2:** The length of the WPBL programme has to be taken into account when making decisions about the appropriateness of assessing labour market impact.

We are of the view that tracer studies will become increasingly important as SETAs and the DHET are required to engage with critical questions of impact. The evidence base has to become more sophisticated, but also more coherent and centralised. However, as we have illustrated in the different sections of this report, the appropriateness of tracer studies as a methodology for measuring the impact of a particular programme is influenced by issues such as programme length, programme focus, and the impact of other influencing factors. *The question is thus not whether it would be appropriate to extend the approach to a bigger range of WPBL programmes, but how to institutionalise such studies across the PSET system*, thereby enabling an assessment of whether an individual who ends up in employment or unemployment has participated in a WPBL programme at some point in their lives. This would allow a more credible assessment of the contributory role that participation in a particular programme plays in the eventual labour market outcome.

1. INTRODUCTION: THE PROBLEM AND THE POLICY CONTEXT

The socio-economic and political context of the country at this historical juncture has contributed to the entire post-school education and training (PSET) system being under intense public scrutiny and subject to extensive criticism. It is becoming increasingly important for public institutions to demonstrate the impact of their disbursement of scarce public resources. However, this is often a very difficult or impossible task for officials, for, at all levels (national, sectoral, provincial and local), we lack quality centralised, consolidated and appropriate data sets that can assist in answering the critical question of whether these investments represent value for money. This is particularly the case regarding workplace-based learning (WPBL), where there is a paucity of integrated data sets on enrolment, throughput and completion, and, most significantly, the transition to the workplace from such programmes. Learnerships, apprenticeships, *internships and skills programmes are all formally recognised WPBL programmes that incorporate practical exposure* and training in a workplace setting for the education of the individual.[3]

Based on this context, the main objective of the present project was to scope and consider the feasibility of institutionalising tracer studies[4] relating WPBL programmes. This cuts across a wider set of current debates and considerations

in the country and the PSET system, namely those on:

- The institutionalisation of tracer studies across the PSET system and whether institutions have the capacity to achieve this;
- The specific tracer methodology appropriate to different skills development programmes and initiatives within the system;
- The policy intent to upscale the provisioning of WPBL; and
- The policy intent to improve government and PSET system accountability to the South African populace.

Labour market and education and training inequalities and failures have made the successful transition from education and training to the labour market or gainful work a serious policy concern in a number of countries. Persistent and growing skills needs in key sectors, occupational fields, and levels and geographic locations have led many to question the role and effectiveness of the PSET system and, particularly, the sector education and training authorities (SETAs[5]) (their role is discussed in more detail in Section 2.1) in directing and disbursing funds in order to develop the skills that are needed in the South African labour market. This requires SETAs and the Department of Higher Education and Training (DHET) to be better capacitated in order to explain how the allocation of funds for different types of skills development has impacted on societal, economic and labour market concerns. However, it is widely recognised that 'the absence of effective monitoring and evaluation has created a situation

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3   Learnerships differ from the traditional apprenticeship in that they operate across all sectors and all skills levels (from NQF Levels 1–8) and not only intermediate-level or artisanal skilling (NQF Levels 3, 4 and 5), which is the case with apprenticeships (Kruss et al. 2012). The learnership system aims to provide a recognised occupational qualification achieved through structured institutional learning and applied competence developed through workplace experiential learning.

4   The methodology of educational pathway or tracer studies is typically longitudinal surveys of a cohort, which track the individuals' progress through a particular form of training, or the final years of schooling, into post-schooling education and training and the workplace.

5   While the focus in this report is on SETAs, a portion of 20%+ of the skills levy is processed through the National Skills Fund (NSF), and the same questions concerning accountability would apply equally to the NSF. Bearing in mind that much of NSF funding is developmental seed funding for greenfield projects, it would also be important to ask how many NSF projects have become self-sustaining.

where SETAs and the DHET are unable to answer these very serious criticisms' (DHET 2015a).

Up until now, SETAs have not always had adequate systems and/or capacity to gather information that would assist them in interrogating and showing the impact of the funding they allocate to particular programmes. Firstly, SETAs and the DHET in general need an evidence base that will better assist them to illustrate whether the investment of public funds to support different types of training represents value for money. Thus, with reference to extending capacity to assess the impact of WPBL in particular, it is important to first reflect on the currently available data and information on WPBL. Secondly, it will be critical to consider how efforts to upscale the provisioning of such programmes in the South African context would impact on efforts to institutionalise tracer studies as a methodology for assessing impact.

Moves towards clearer conceptualisation

Our ability to assess the impact of WPBL has been hampered in the past by the often unstructured and variable nature of such training across the system and by poor delineation of the boundaries of the term. There has been long-raging and contentious debate on the notion and terms related to training that incorporates exposure to a workplace, terms

such as work-integrated learning (WIL), workplace learning (WPL) and work-based learning (WBL), for instance. The lack of shared definitions is quite apparent, even in the White Paper on Post-School Education and Training (2013) (hereafter 'the White Paper'), which refers to WPL and WIL, but seems to use the terms interchangeably.

The term 'WPBL' has most recently been adopted to encompass all these different forms, and the DHET has drafted a policy framework (DHET 2015b) which has resulted in much more clarity concerning the terminologies. Conceptually, the DHET's approach is informed by the definition of WPBL as 'an educational approach that aligns academic and workplace practices for the mutual benefit of students and workplaces' (CHE 2011). But there appears to be a tendency towards prioritising the formal labour market in the tentative definition proposed, and in which WPBL is asserted to be 'an educational approach through which a person internalises knowledge, gains insights and acquires skills and competencies through exposure to a workplace to achieve specific outcomes applicable to employment' (DHET 2015b). The framework goes further to summarise and categorise different forms of WPBL, the policy context, and the roles and responsibilities of key role players. A useful distinction is that between the types of WPBL which are required to achieve a qualification, to acquire professional registration, and for the purposes of gaining

Figure 1: Diagrammatic overview of the different categories of workplace based learning in South Africa
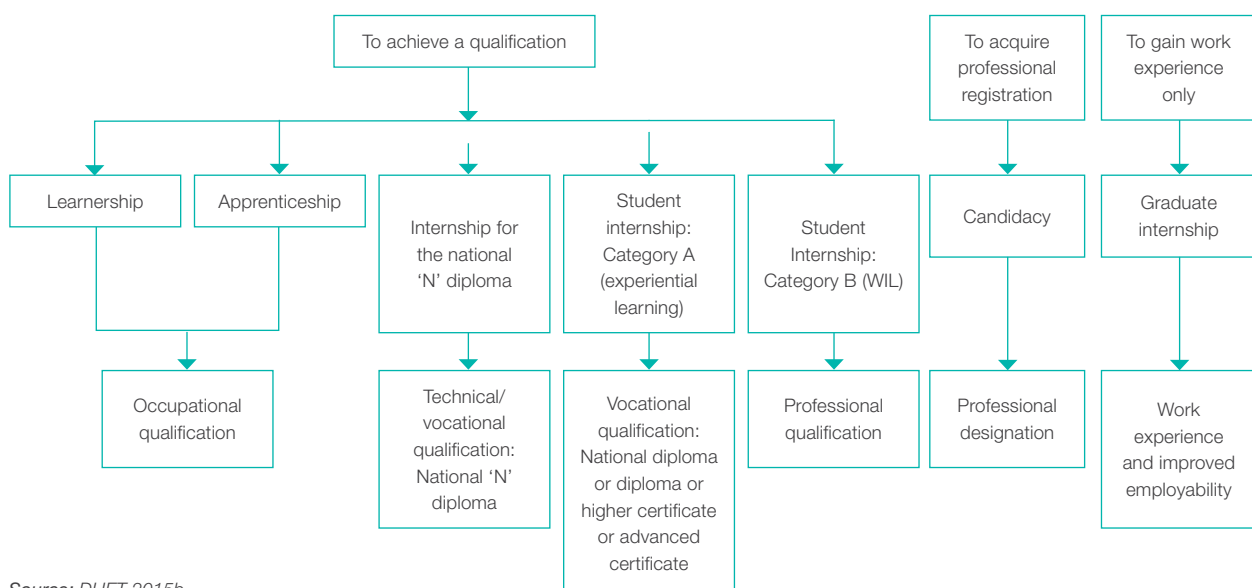
Source: DHET 2015b

workplace experience alone (see Figure 1). This distinction draws conceptually from the idea that WPBL includes *learning for work, learning at work and learning through work*. This distinction already alludes to the possibility that measuring outputs, outcomes and impact might be very different based on the objectives or purposes for which an individual participates in a WPBL programme.

Although not without contention (Blom 2016), this policy framework is a laudable step towards creating common understanding and shared definitions of such practice that should assist in setting up the structures and definitions that will enable better monitoring, ensure better quality, and allow measurement of the impact of WPBL.

Upscaling provisioning of WPBL in South Africa

WPBL has been recognised by many as a key pedagogic device for improving and supporting individual transition from education and training into the labour market, and so many South African policy documents have called for, and indeed anticipate, a dramatic upscaling in provisioning (Blom 2015). This can be seen in the White Paper's vision to strengthen the relationship between workplaces and education and training providers. This is a vision that has been taken up quite explicitly by the SETAs, as evidenced in the recent guidelines regarding the implementation of grant regulations, where one of their key future objectives is the 'increase [in] the workplace-based learning component both within and following college and university programmes'.

SETAs thus have to expand WPBL and put in place systems that can generate reliable information in order to engage with questions of impact.

Outline of the report

While the present project considers the institutionalisation of WPBL programmes in particular, it is part of a larger research theme falling under the Labour Market Intelligence Partnership (LMIP) that is investigating the institutionalisation of tracer studies across the South African PSET system. This research theme acknowledges that

a range of disparate tracer studies have been conducted across this system and that the very first step in each project would have to be a review and consolidation of information about tracer studies and their methods as they relate to the particular PSET subsystem.

This project report engages with this overarching theme objective in the following ways:

1. **Firstly, it evaluates tracer-type research into different WPBL programmes being undertaken by the SETAs**. This will assist in ascertaining the structures and capacities already in existence that can be built on in order to facilitate institutionalisation, but also highlight the current gaps that need to be filled in strengthening this capacity. The report draws on interviews with key stakeholders so as to assess the dominant perspectives on the viability of institutionalising tracer studies across the PSET system in general, but also draw out insights related particularly to WPBL.

2. **Secondly, we evaluate the quality of SETA administrative data sets that capture information on all individuals registering for, and completing training in, programmes that the SETAs fund**. In the report, we refer to these as population databases, and they are critical for constructing the contact data sets that facilitate tracer studies. The report also highlights how these serve as critical information systems that illustrate the outputs and outcomes of different SETA programmes.

3. **Thirdly, we use findings and data emerging from an earlier project (Kruss et al. 2012) undertaken by the Human Sciences Research Council (HSRC) to assess the impact of learnerships and apprenticeships during the period of National Skills Development Strategy II (NSDS II) (2005–2010)**. The findings are then used to reflect on and illustrate the types of insights that are possible through using a tracer-study methodology to make such an assessment. We use the types of questions of impact that the SETAs and the government are currently faced with in order to frame this

discussion and as a way to illustrate the usefulness of the methodology.

4. **Lastly, we present the methodology and set of research instruments that can serve as a guideline and template for the development of tools for assessing the impact of a range of WPBL programmes across the system**.

2. WHAT SETAS ARE CURRENTLY DOING

The mandate of SETAs

Sector education and training authorities (SETAs) were established to ensure and facilitate the development of skills in relation to sectorally identified skills needs (RSA 2008). Initially, 25 (now 21) SETAs replaced the 33 industry training boards that existed prior to 2000. SETAs have a broader range of responsibilities and powers. They cover all industries, as opposed to only some sectors, and focus on a wider range of skills development than did the training boards, which primarily focused on apprenticeships (DoL 2005). Over the years, their main role has been the subject of contention. Some assert that SETA attempts to deliver on their mandate are constrained by the myriad, and sometimes even competing, objectives and responsibilities they have been assigned.

In line with such assertions, the White Paper identifies the development of a 'tighter, streamlined focus for the SETAs [as] a key step in strengthening them' and indicates that their future focus should be on 'obtaining accurate data about workplace skills needs, as well as supporting providers in delivering programmes necessary in their sectors' (DHET 2013: 67). One of the main changes arising from the National Skills Development Strategy III (NSDS III) is the acknowledgement that there needs to be less focus on numerical targets (outputs or numbers in the system) and more on outcomes and impact. This strategic goal of the system has led to a reassessment of the types of information that will be required from the system going forward.

In the past, there was much more focus on increasing access by means of registration and improving programme completions or certification, while expanding the post-secondary education and training (PSET) system as a whole. Thus much of the assessment of impact focused on answering

questions related to education and training outputs and outcomes, questions such as:

- Do the programmes you fund serve to include and skill a larger and more representative proportion of the South African populace?
- Are there differences in the success of individuals from different societal groups?

But, given recent shifts in focus, SETAs and the Department of Higher Education and Training (DHET) are increasingly required to answer questions that relate to labour market impact, for instance:

- Is the training offered in skill areas that are really in demand?
- Do people who receive training that is supported by the particular government department or entity find jobs? Do they stay in those jobs, and is the training appropriately preparing them to function in that job?
- Does participation in different types of programmes offer a high enough return on investment to justify the funding?

Tracer or pathway studies have been recognised as a methodology that would offer data and information to assess labour market impact. In Tables 1 and 2, it can be seen that quite a few SETAs are conducting tracer studies to assist in answering the question of how they are impacting on skills development in their relevant sectors.

An assessment of this information highlights the fact that SETAs are interested and vested in conducting tracer studies in order to answer questions that relate to the outcomes and impact of their WPBL programmes. Tracer-study methodologies have common limitations, such as poor response rates and the limited generalisability associated with small

Table 1: Tracer studies undertaken by SETAs

SETA	Title	Purpose	STATUS		
			Completed	Current	Planned
FASSET	Learning Programme Success	To enable employees and learners to determine how the programme performed.	October 2015		
FASSET	Access into Employment – Learner Tracer	To monitor learner progress after completion of the programme.	March 2016		
FOODBEV	Tracer Study on Learnerships	To track and trace learners who completed Foodbev SETA learnerships.	March 2016		
HWSETA	Tracer Study of HWSETA Learners Certificated in 2013/14	To track and trace learners who received certificates for HWSETA-funded learnerships in 2013/14 recorded in the SQMR, in order to ascertain if they had obtained jobs within six months after receiving certificates.	December 2014		
HWSETA	Tracer Study of HWSETA Learners Certificated in 2014/15	To track and trace learners who received certificates for HWSETA-funded learnerships in 2014/15 recorded in the SQMR, in order to ascertain if they had obtained jobs within six months after receiving certificates.	December 2015		
LGSETA	Tracer Survey of LGSETA Beneficiaries	Not known.	Annual Survey		
MERSETA	AATP Post Trade Test Tracer Study	To conduct a research project designed to take stock of the activities, employment status, and expectations of apprentices who qualified on the AATP management platform. (More details are available in the ToR and SLA.)	September 2012		
MERSETA	Post Qualification Tracer Study over SETA Year 2012/13	To establish the rate of retention across different learning programmes, including an analysis of: the reasons for leaving the original training employer; the qualification levels prior to the learning programme; the migration patterns; and of how post-training alternative employment was secured. (More details are available in the ToR and MoA.)	March 2016		
MQA	Tracer Study for MQA Funded Bursars	To provide as much information as possible regarding the activities of MQA bursars after obtaining a qualification, including the employment status and expectations of bursars who qualified through the MQA bursary programme. Tracer studies are designed to determine whether or not a programme is achieving its mission and help demonstrate its impact, and this is best seen in the achievements of the qualified MQA-funded graduates (herein referred to as 'bursars').	Not available		
TETA	Tracer Study	The tracer study was intended to clearly provide evidence of the performance of the skills development programmes.	November 2014		
TETA	Tracer Study (BTC-TETA)	To track and assess the impact that the APEC courses in maritime and logistics had on returning South African students funded by the Belgium Technical Cooperation and the TETA.	December 2015		
TETA	TETA Tracer Study	To establish the employment rate of TETA graduates trained through TETA skills development programmes; and to generate labour market information about the competitiveness of TETA graduates, about their income levels and about common employment destinations.		July 2016	

Source: DHET (2016)

Table 2: Comparison of research parameters for those studies having available information

SETA	Purpose	Methodology	Population	Sample size	Response rate	Type of data analysis	Challenges
FASSET	To determine beneficiaries': • Employment status after completion of the program mes; • Work sectors; • Retention rates; • Earnings; • Assessment of the usefulness of the intervention; • Satisfaction levels with the work-readiness training; and • Attitude change with regard to employment.	• All learners with email addresses were included in the mailing list. • A self-administered questionnaire via SurveyMonkey.	1 126	261	23%	Descriptive statistics	• Poor response rate • Incomplete responses
HWSETA	To assess: • Whether learners found employment within six months after receiving certificates; • Whether learners in learnerships and internships were absorbed into employment by the host employer organisation; and • The extent to which employment arising from the learnership, internship and bursary programme was aligned to the sector of the qualification obtained.	• Cellular or telephone numbers were selected for the study. • The pathway approach was to explore the trajectories of learners in transition from the learnership programme to employment or unemployment, further studies/training or volunteering. • A computer-assisted telephonic interview (CATI) tool was used. • The questionnaire had 42 questions for exploring pathways of learners after programme completion.	2 274	852	37%	Descriptive statistics	
LGSETA	To ascertain the impact of LGSETA-funded skills development interventions in terms of: • Relevance to current work and future employment opportunities for employed beneficiaries; and • The employment prospects/ status of those beneficiaries who were unemployed at the time.	• The survey was limited to employed (18.1s) and unemployed (18.2s) beneficiaries between 2011/12 and 2013/14 who completed a learnership or internship or who were awarded a bursary. • A document analysis of programme information, annual reports, the strategic plan and related documents, e.g. the SSP, the APP, and national policies and strategies, as a contextual overview. • Telephonic interviews were conducted.	5 255	1 681	32%	• Survey data quality-assured and cleaned • Descriptive statistics presented using the data • Qualitative data analysed thematically	• Poor participation rate; calls went to voicemail or were not answered • Incorrect information • Incorrect person/ audience
MERSETA	To ascertain: • The rate of retention in the original training company; • The reasons for employers retaining or releasing their learners; • Why learners remained with or left the original training company; • Links between the qualification prior to starting the learning programme and the time to successful completion and employment; • The post-qualification migration patterns of learners across the different learning programmes; • The post-qualification training courses attended; and • The means by which alternative employment was secured. To arrive at: • Comparative findings between the different learning pathways and employment.	• Telephonic interviews using questionnaires.		1 030			• Reliability of the database used • Unwillingness to participate on the part of some learners • Some learners could not be traced • Some interpretations by the provider were not in line with merSETA's expectations

Source: Adapted from information received from the DHET (2016)

sample sizes (these will be elaborated on in Section 5). As is clear from the evaluation of the current SETA studies, these limitations are exacerbated by the sampling methodologies used in these particular studies, which tend to further limit the significance and validity of the interpretations of impact. In the case of the FASSET survey, for example, the questionnaire was sent to all individuals in the population who had email addresses, and, in the HWSETA survey, the basis for the selection of telephone or cell phone numbers to include in the sample was not made explicit. Similarly, In the merSETA survey, the basis for the selection of individuals for the survey sample was not clear. Not only do sample size and lack of sample-selection information limit the validity of the findings and interpretation, but they also forces the analysis to remain mainly descriptive. This leads us to suggest that the limitations in respect of generalisability in these surveys are related more to the lack of rigour applied to the sampling methodology than to the tracer study as a research methodology itself.

While there are difficulties regarding methodologies, as well as what response rates and level of analysis are possible, the studies discussed above represent a valuable pool of experience and set of resources to draw on in expanding and institutionalising tracer studies across the system. What this section also highlights is that the selection and quality of the sample constitute a very basic and critical component that directs the kind of interpretation and analysis of impact that is possible through the use of a tracer-study methodology. To assist in the selection and establishment of strong samples, we need to have stronger and better delineations of the total population. This is where SETA administrative data sets become important. Constructing and ensuring the quality of SETA administrative data sets is the starting point for accurately delineating the population that supports the compilation of a tracer-survey sample. As will be shown in the next section, a good-quality and reliable population database can itself contribute to answering critical questions regarding the outcomes and output of a skilling system.

3. THE VALUE OF GOOD POPULATION DATA SETS

If more attention is focused on the quality of administrative data sets, they can offer key data for analysing the outputs and outcomes of particular skills development programmes in the post-secondary education and training (PSET) system. While transforming administrative data into databases that will allow systematic analysis does require meticulous attention and, often, more time than administrators have at their disposal, the benefit is that such data is routinely gathered and often available immediately.

This section illustrates the value of using administrative data sets for a more effective assessment of education and training outcomes. By reflecting on the eight cohorts of data constructed for this project, the section also shows the preparation required to ensure that such an assessment is reliable. The focus is on administrative data sets for three of the four formally recognised workplace-based learning (WPBL) programmes: internships, learnerships and apprenticeships. Skills programmes also officially fall under the description for WPBL, but their shorter and much less structured format would make it impossible to link labour market outcomes to participation. The same concern applied to the inclusion of internships in this project consideration. However, for the purposes of exploring and scoping the application of a methodology previously employed to measure the impact of learnerships and apprenticeships, to a wider set of WPBL programmes, the team decided to include them.

While these are the newly constructed data sets, some of the analysis will reflect retrospectively on change since an analysis of the impact of learnership and apprenticeship (2009/10 databases) programmes that formed part of the assessment of National Skills Development Strategy II (NSDS II) in 2012. By taking the reader through the different stages and showing

the kinds of insights and analysis that are possible, we hope to emphasise how critical it is that we ensure credible population data alongside efforts to institutionalise tracer studies across the PSET system.

Table 3 reflects the data sets created in this project, namely:

- A cohort of all those who registered for an internship in 2009/10 (Cohort 1);
- A cohort of all those who completed an internship in 2009/10 but may have registered in a previous year (Cohort 2);
- A cohort of all those who registered for an internship in 2014/15 (Cohort 3);
- A cohort of all those who completed an internship in 2014/15 but may have registered in a previous year (Cohort 4);
- A cohort of all those who registered for an apprenticeship qualification in 2014/15 (Cohort 5);
- A cohort of all those who completed an apprenticeship qualification in 2014/15 but may have registered in a previous year (Cohort 6);
- A cohort of all those who registered for a learnership qualification in 2014/15 (Cohort 7); and
- A cohort of all those who completed a learnership qualification in 2014/15 but may have registered in a previous year (Cohort 8).

Table 3 reflects the size of each cohort that formed part of the analysis for this section. Before analysing the information, we need to reflect briefly on the process of compiling a valid population data set. This is important in order to inform adjustments to the current sector education and training authority (SETA) data-gathering tools and practices, and could immediately benefit SETAs and the Department of Higher Education and Training (DHET). Enhancing the quality of population databases can support SETAs' ability to assess impact and outcome of

Table 3: Data sets and cohorts

Data sets	Year	Registered	Completed	Total system
Internships	2009/10	2 678 (Cohort 1)	1 152 (Cohort 2)	3 830
Internships	2014/15	11 370 (Cohort 3)	3 145 (Cohort 4)	14 515
Apprenticeships	2014/15	21 070 (Cohort 5)	10 632 (Cohort 6)	31 702
Learnerships	2014/15	77 058 (Cohort 7)	40 528 (Cohort 8)	117 586

Source: DHET (2016)

WPBL in the short term, while putting in place mechanisms to strengthen the capacity to illustrate and assess impact in the medium to long term.

Note on terminology: WPBL programmes in some instances have unique terminology that is often not understood by the world of institutional learning, which is based on enrolment planning for calendar or academic years, concepts that do not apply to WPBL programmes.

STARTING: When a learner (employed or unemployed) starts a WPBL programme, this is usually referred to as 'registered', but, sometimes, the terms 'entered' or 'enrolled' are also used. Such a start can happen at any time of the year and is highly dependent on the employer associated with the programme. In some cases, with large employers, such starts coincide with financial years and budgeting processes, but not always. Grant allocations by SETAs or the National Skills Fund (NSF) or other donors can also have a significant effect on a start date. The registration of a learner is usually accompanied by an agreement between learner and employer, with a training provider sometimes being involved. At present, only learnership agreements are regulated nationally, while apprenticeships are registered using learnership agreements. There is no single standard agreement for internships, and each sector or employer can use different formats. This reflects a policy gap that needs to be considered by the DHET. There is also more often than not a significant difference in, for example, the dates when a learner physically starts a WPBL programme and when the learner registered with a SETA for a learnership or apprenticeship programme. Often, learners who started a programme a considerable time ago are reported as current learners by SETAs. This causes great difficulty in quality-assurance of learning linked to the credit value of a qualification, as well as in

reporting. In most cases, both dates are captured on SETA systems so as to allow for accurate learner monitoring and reporting, which has significant implications for tracking and tracing learners across data systems and processes. This is where the utilisation of a unit-level record for learners becomes important.

FINISHING: When a learner (employed or unemployed) finishes a WPBL programme, this is usually referred to as 'completed'. This does not mean that the learner has actually received a certificate, as the certification process is often a lengthy one extending beyond WPBL programme completion. In the case of internships, there is almost never a certificate, especially if the internship was for purposes of workplace experience. This is a serious problem in the WPBL system, as a person has no formal credentials proving that he or she has in fact spent a period of time learning on the job. A possible solution could be to convert all internships to apprenticeships that have a structured curriculum as well as assessment and certification. Such a conversion would have benefits for learners and the economy, as employers would be reasonably assured of the competencies learnt. Moreover, investors, globally, appreciate and support apprenticeship development systems, as recently noted at G20 and DAVOS meetings.

COHORTS: A cohort of WPBL programme learners who 'start' and 'finish' in a period of time such as a calendar or financial year is never the same cohort of learners. This is a critical point to understand when analysing throughput and pass rates. WPBL programmes all differ in length and the starting point is completely random. So, a cohort of learners is simply a group of learners. The only way to accurately track throughput and pass rates is by tracking an individual unit-level record of a person through the WPBL system.

The process of compiling quality population data sets

This section highlights important technical considerations regarding data cleaning and analysis of SETA administrative databases. Data-set cleaning for each cohort involved three stages: data preparation (on average, requiring a month per programme), removal of duplicates, and standardisation (on average, taking a month per programme).

Data preparation
The administrative data was received in the form of multiple Excel spreadsheets per SETA, by quarter, with separate sets for entry into and completion of a WPBL programme. This required an extensive process of data preparation and then compilation in the form of a single population data set.

Inconsistent capturing practices between and within SETAs resulted in the need for basic data cleaning of several fields before merging was possible. Information was frequently missing, particularly with regard to the following variables: *moderator name* and *moderator ID number*. The practice of capturing incorrect information under the incorrect variable-fields was also frequent. For example, gender and race were frequently captured under the wrong variable-titles. A process of renaming variables was in some cases necessary so that this information would be uniform across all SETAs. For instance, instead of *learner name, name*, was used.

It was also necessary to recapture race data uniformly across SETAs and programmes. The variable was not uniformly captured for all race groups across SETAs, so, for comparability, the four categories were collapsed into two: B-Black (to include black Africans, Coloureds and Indians) and W-White. It was also important to ensure that the correct formats were in place. For example, if the date of birth is not captured uniformly and in a number format, it is not possible to calculate age. It was also necessary to create a number of new variables in order to structure, organise and prepare the data for analysis before it was merged into eight data sources (see Table 3) for the purposes of this project.

Removal of duplicates
The next stage of cleaning involved the removal of duplicates in the data sets. Duplicates were identified on the basis of a participants' first name, surname, ID number, SETA, quarter, National Qualifications Framework (NQF) level, and course description. During the duplicate-removal process, the ID number variable was used to create three new variables – birth day, birth month and birth year. These were then used to create the age variable, which formed a key variable for analysis.

Standardisation of variables
The final stage of the data-cleaning process focused on standardising the variables in order to facilitate data analysis and interpretation. This involved running frequencies on the selected variables to check for any data inconsistencies and to ensure the variable-categories were uniformly captured.

Table 4: Data-cleaning process

	Learnerships		Apprenticeships		Internships			
	2014/15	2014/15	2014/15	2014/15	2009/10	2009/10	2014/15	2014/15
	Ent*	Comp**	Ent	Comp	Ent	Comp	Ent	Comp
Original data	77 542	40 807	21 399	10 686	2 797	1 173	11 438	3 156
Duplicates removed	484	279	329	54	119	19	68	11
% of original removed	0.6	0.7	1.5	0.5	4.3	1.6	0.6	0.3
Final number of cases	77 058	40 528	21 070	10 632	2 678	1 154	11 370	3 145

*Notes: *Ent = Entries (these refer to all those who registered for a particular programme) and **Comp = Completions (these refer to all those who successfully completed a particular programme).*

Where no data was present for a particular variable, or where it was not possible to accurately interpret the data, the entry was captured as 'Undefined'. This process was followed for all variables. For example, names of qualifications were captured in an extremely varied manner across databases and, to assist interpretation and analysis, it was necessary to standardise this field to broad areas such as 'Engineering', Administration' and 'Internet technology', for example. Also, the age variable was recoded into the following numeric-string variable-categories: (1–15); (16–25); (26–35); (36–45); (46–55); (56–65); (66–Highest); (System missing = 'Undefined').

Once all variables were standardised, a second frequency run was performed to double-check that the categories in a particular variable were correct and uniform.

The overall assessment was that the 2014/15 data were a vast improvement on the population data sets received from the DHET in 2009/10. This relates in the main to more data being captured across variables; in other words, more fields were captured in comparison with the 2009/10 data sets. Also, a bigger proportion of SETAs capture more information across the different variables. There appears to be a greater acknowledgement of the importance of the data captured in these data sets and a strengthening of the system in terms of a shared understanding of the different programmes. These are sure signs of a maturing data-gathering and data management system.

The negatives remain the inconsistency between the variables and categories captured by SETAs. Different SETAs use different formats to capture data – some have extensive data sets with all the different types of information, and some just have the minimum data such as name, surname, ID, race and gender. It is not clear whether this is due to forms that are problematic, or whether insufficient attention is given to the task, or whether there is insufficient training regarding the task. This represents a key area for intervention in order to ensure that the quality of administrative data sets shows further improvement in an effort to better support assessment of the impact of a wider range of skills development programmes.

The following section shows how we can use population data sets to measure outputs more effectively. Firstly, these data sets hold information that can indicate the extent of registration and completion (those who enter and exit the systems) in respect of various skills development programmes, and so they can be used to interrogate the pool of skills potentially available to the labour market. Secondly, these data sets also contain other pieces of information that allow further exploration of the shape of this pool, for example by race, gender and age.

What kinds of questions can be answered by these data sets?

One of the basic concerns for SETAs will always be *whether the programmes they provide serve to include and skill a bigger proportion of the South African populace*. During a previous study of the impact of learnerships and apprenticeships under NSDS II (Kruss et al. 2012), the overall assessment was that these programmes had indeed grown and included and skilled more individuals as well as a more representative proportion of the South African population when compared with the profiles of participants between 2005 and 2010.[6]

During this period, learnership programmes expanded significantly, offering access to skills development for younger, black and women participants. The apprenticeship system similarly grew between 2005 and 2010 and appeared to be providing more opportunities for unemployed youths rather than offering upskilling opportunities for the employed. The most significant indicator of impact, which was made possible through the analysis of the survey data, was that both learnership programmes and apprenticeships served a critical function in supporting the successful transition of the majority (between 70 and 80% of the sample) of participants into the labour market. On the whole, the conclusion was that both systems are quite small in comparison

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6   In 2012, the Human Sciences Research Council (HSRC) led a programme of projects that aimed to assess the impact of NSDS II under the direction of the Department of Labour (DoL). As part of this larger programme of projects, a research team led by Dr Glenda Kruss focused particularly on the impact of learnerships and apprenticeships during this period.

Table 5: Registrations and completions in respect of WPBL programmes (internships, learnerships and apprenticeships) between 2009/10 and 2014/15

| WPBL programme | 2009/10 | | | | 2014/15 | | | Total system % change |
	Entered	Completed	Total system		Entered	Completed	Total system	
Internship	2 678	1 152	3 830		11 370	3 145	14 515	278%
Apprenticeship	9 316	3 432	12 748		21 070	10 632	31 702	148%
Learnership	43 569	28 410	71 979		77 058	40 528	117 586	63%

with other skills development subsystems,[7] but have grown significantly and are making a positive impact. Comparatively speaking, however, the study concluded that the learnership system was more inclusive (Kruss et al., 2012).

In the next few sections, we consider how the systems have changed since 2009/10. As indicated previously (see Table 3), to facilitate this analysis in respect of the learnership and apprenticeship systems, we use the baseline assessments (2009/10 learnership and apprenticeship registration and completion data) established in the study by Kruss et al. (2012), and also construct four new data cohorts (2014/15 learnership and apprenticeship registration and completion data). In order to perform the same assessment for internships, we had to construct four additional cohorts of data (2009/10 and 2014/15 internship registration and completion data).

Substantial growth in WPBL programmes since 2009/10

It is clear that the provisioning of internships (278%), apprenticeships (148%) and learnerships (111%) has grown substantially over the last five years. Current figures indicate that, while the learnership system remains the largest (117 586), followed by the apprenticeship system (31 702), internships (14 515)

have shown the greatest growth since 2009/10. All systems have a higher proportion of individuals who enter into the three WPBL programmes (learnerships, internships and apprenticeships) as opposed to individuals who complete them, but both entries and completion numbers have grown since 2009/10. Taking all of the information together, though, we can assert that, during the period, access has grown faster than success indicators; entries have almost doubled (a 97% increase across the three systems), while completions have grown by just over half (a 65% increase across the three systems).

The population data also displays a pattern of sectoral preference for the provisioning of certain types of programmes. MerSETA and CETA dominated the provisioning of apprenticeships in 2014/15, together constituting 55.2% of entries and completions. WRSETA and HWSETA, on the other hand, dominated in the provisioning of learnerships, constituting roughly 23% of entries and completions. Finally, MICT and PSETA dominated the provisioning of internships, constituting roughly 38% of all entries and completions in 2014/15.

The locational disparities in provisioning noted in the 2009/10 data appear to persist in 2014/15 – as the example comparing the entry and completion numbers for apprenticeships in Table 6 shows. Gauteng, KwaZulu-Natal and the Western Cape continue to register and complete the most apprenticeships, but all experienced declines in both registration and completion. At first glance, this seems contradictory to earlier assertions that all systems have shown increases in total participation, but a closer look at the trend in the undefined category illustrates that the decline in both registrations for, and completions of, apprenticeships can mostly be attributed to the increase in the

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7   In 2012, we considered the total learnership and apprenticeship registrations and compared these with the total enrolment in public higher education institutions and further education and training (FET) colleges, and found these to be relatively insubstantial (32 508) in comparison with those in the two other pathway systems (837 779 for higher education institutions and 420 475 for FET colleges). While not necessarily inappropriate, given the realities of constrained access to a wide range of post-schooling opportunities in South Africa, it is pertinent to consider whether learnerships and apprenticeships should, and could, offer alternative skills development pathways on a larger scale than at present (Kruss et al. 2012).

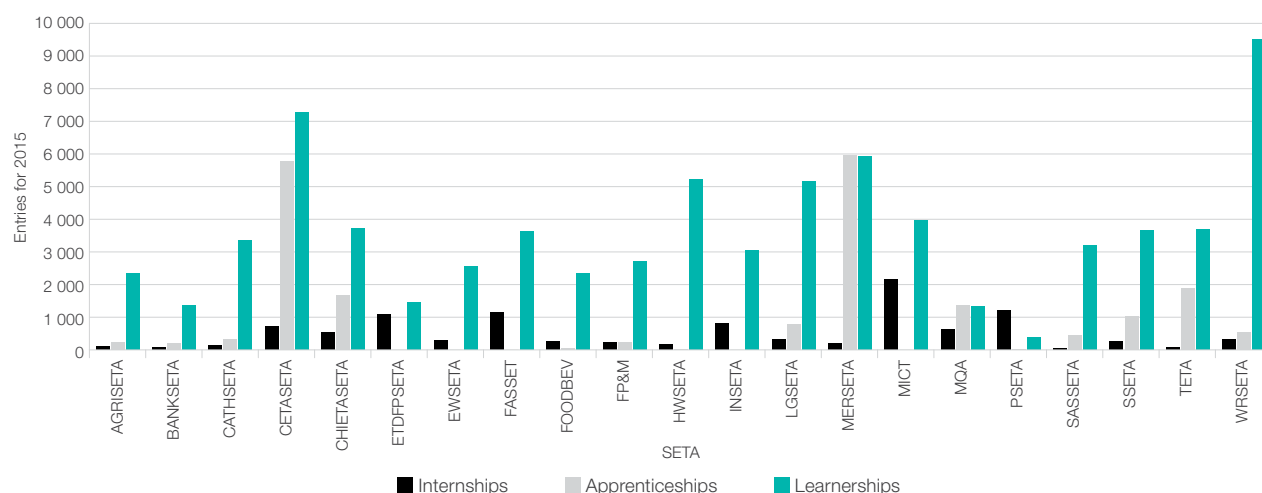## Figure 2: Entry into different types of programmes by sector in 2014/15

Legend: Internships, Apprenticeships, Learnerships

Figure 3: Completion of different programmes by sector in 2014/15
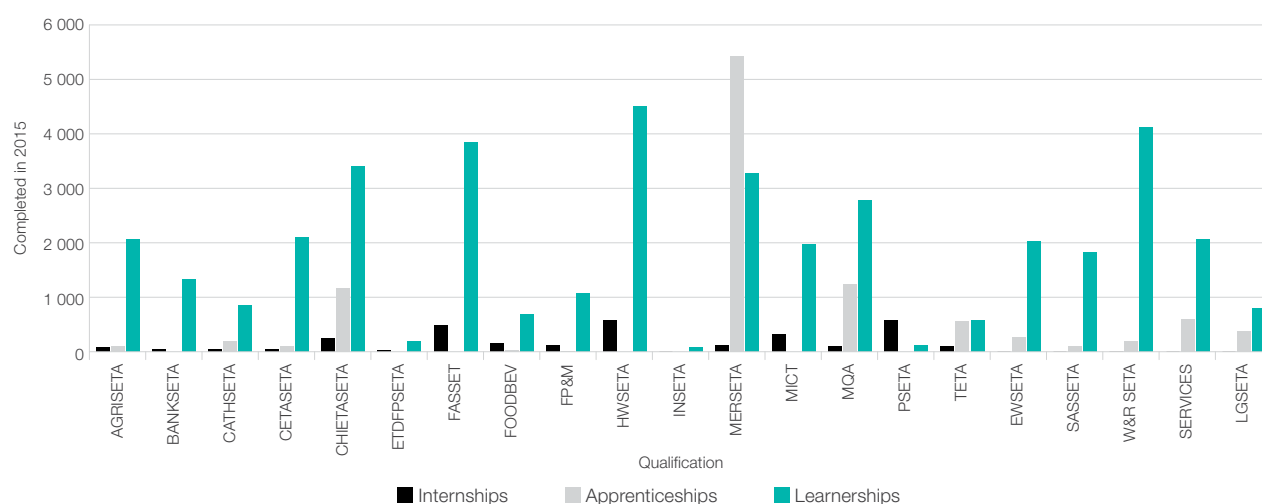

Legend: Internships, Apprenticeships, Learnerships

Table 6: Provincial distribution of apprenticeship registration and completion between 2009/10 and 2014/15

Apprenticeship								
Province	Ent 09/10		Ent 14/15		Comp 09/10		Comp 14/15	
EC	564	6%	926	4%	106	3%	268	3%
FS	491	5%	1 300	6%	88	3%	301	3%
GTN	3 583	38%	4 540	22%	1 347	39%	2 394	23%
KZN	1 639	18%	3 558	17%	689	20%	1 134	11%
LIMP	85	1%	1 723	8%	2	0%	397	4%
MPUM	495	5%	1 950	9%	255	7%	640	6%
NC	110	1%	389	2%	4	0%	91	1%
NW	137	1%	895	4%	133	4%	295	3%
WC	938	10%	1 935	9%	446	13%	807	8%
UNDEFINED	1 274	14%	3 854	18%	362	11%	4 305	40%
TOTAL	9 316	100%	21 070	100%	3 432	100%	10 632	100%

undefined category. This means that, for a bigger proportion of individuals, their provincial data was not captured or indicated in the 2014/15 data set in comparison with the 2009/10 data set.

By conducting the same analysis for internships, we find that, in terms of total registrations, Gauteng, KwaZulu-Natal and the Eastern Cape dominate, but, since 2009/10, the largest growth in provisioning has been noted for the Free State, Limpopo and the North West (see Figure 4, and refer to Appendix 1, Table 31). It would be important to investigate the reasons underpinning such growth, especially if we are to consider the expansion of WPBL across the PSET system. By conducting such an analysis, we might gain significant insight into best practice in order to upscale such programmes.

When we consider the successful completion of such programmes, we find that Gauteng, Limpopo and the Western Cape dominate, while the largest growth in the completion of internships is in respect of learners based in Limpopo, the North West and the Western Cape (see Figure 5, and refer to Appendix 1, Table 37). It is notable that the Western Cape falls in the top three in terms of completions of internships, and also falls in the top three when we consider the growth of internship completions since 2009/10.

We would need to explore why the Western Cape in particular has been successful at growing internships. What kinds of support and/or incentives have been provided over this period in this province? Are there any lessons to be learnt? What support is being given to interns in comparison with what other

Figure 4: Geographic participation patterns for internship programmes entered in 2009/10 and 2014/15
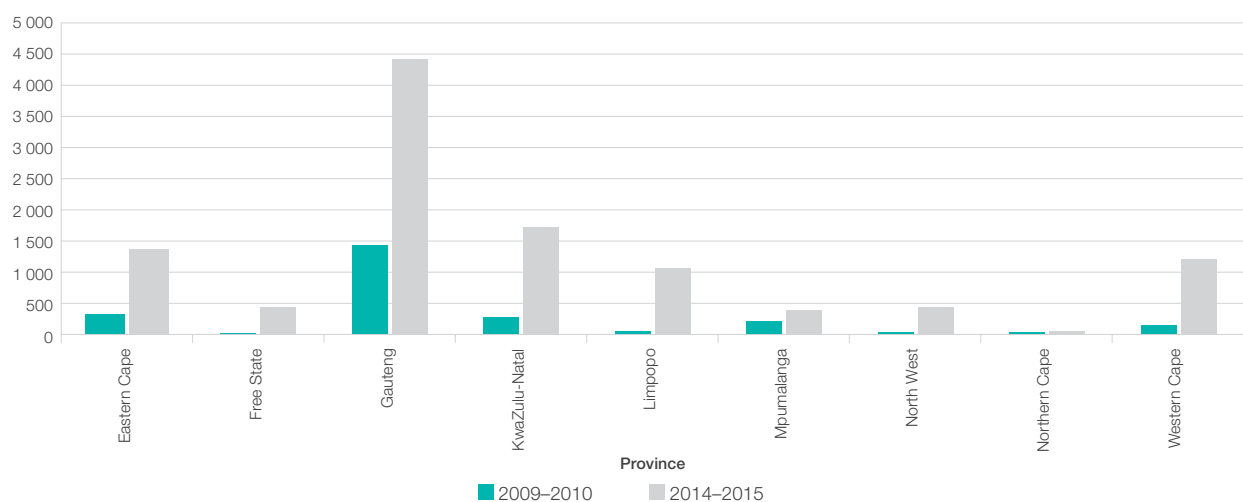
Figure 5: Geographic participation patterns for internship programmes completed in 2009/10 and 2014/15
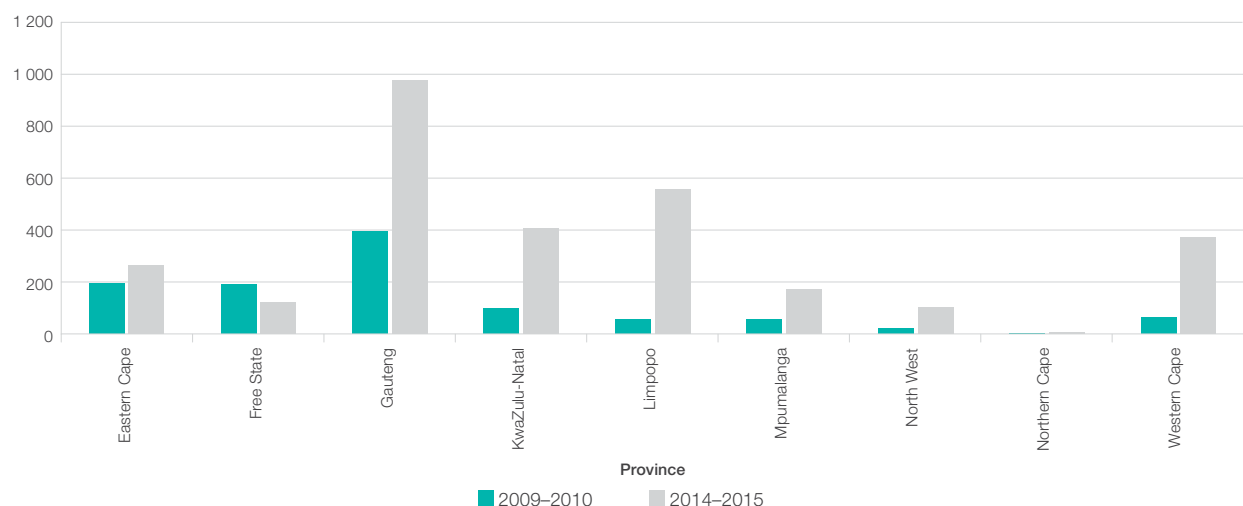
provinces are doing? This information would highlight critical questions that can be useful in considering the expansion of WPBL.

But we are interested not only in the expansion of opportunities with regard to WPBL, but also in ensuring that a greater proportion of the populace has access to such opportunities, and is furthermore successful in participating in these opportunities.

Higher proportions of blacks, youths and females

Conventionally, we tend to look at change in participation rates disaggregated by race, gender and age in order to assess the extent to which different training programmes or institutions are managing to improve access to skilling for a wider proportion of the South African populace (Table 7). While the White Paper seeks to refocus assessment from targets towards measuring impact, it is useful to reflect on progress and change in the profile of individuals involved in different systems and to identify persisting inequalities.

Across all three programmes, the proportional representation of blacks has increased since 2009/10, but this amounts to an over-representation of their proportional share of the South African population based on 2014/15 mid-year census estimates. In terms of gender, apprenticeships remain strongly male-dominated, with learnerships still the programme that comes closest to parity in terms of gender representation – and internships are not too far behind.

The 2009/10 data showed participants in apprenticeships to be slightly younger than those participating in learnerships, while internship participants were likely to be quite a bit older in comparison with both apprenticeship and learnership participants. This we interpret as being due to the fact that we expect individuals to engage in internships primarily after having been involved in some form of study. While there has not been a very significant change in the mean age of entry and completion in respect of learnerships and apprenticeships, there is a distinct decrease (roughly six years for both entry and completion) as regards internship participation. It is also interesting to note the upward trend in age for participation in both learnerships and apprenticeships, while there is a much steeper downward trend for participation in internships. The increase in mean age for apprenticeship completion is also notable, as this amounts to almost double the increase in mean age for entry. In other words, the increase in mean age for apprenticeship completion (2.92) cannot be totally accounted for by the increase in mean age for entry (1.55).

This raises some questions. It is clear that individuals are entering into internships earlier, which might indicate that more programmes are introducing internships earlier with less focus on introducing internships after the completion of a formal graduate or occupational programme. In other words, this trend could suggest a broadening in the purpose of this form of WPBL.

Taking all of this information together, we can assert that learnerships, apprenticeships and internships have not only grown in size (as established in the preceding section), but are also contributing significantly to ensuring greater levels of access to skilling, particularly for social groups that were marginalised before 1994. They are also contributing significantly to providing

Table 7: Change in indicators of access by programme between 2009/10 and 2014/15

WPBL programme	Status	Race: % black		Gender (F:M)		Age (mean age)	
	Year	2009/10	2014/15	2009/10	2014/15	2009/10	2014/15
Learnerships	Entered	85%	95%	1.00	0.8	28.19	29.99
	Completed	87%	90%	0.96	1.02	29.83	30.90
Apprenticeships	Entered	72%	86%	0.19	0.42	26.29	27.84
	Completed	67%	78%	0.18	0.2	27.96	30.88
Internships	Entered	93%	97%	0.71	0.76	31.38	25.31
	Completed	94.4%	94.6%	0.79	0.66	32.66	25.81

Figure 6: NQF level of internships registered, 2009/10–2014/15

	1	2	3	4	5	9	7	8	9
2010	0	19	3	187	730	248	28	0	0
2015	3	26	222	426	2 277	3 632	1 025	49	4
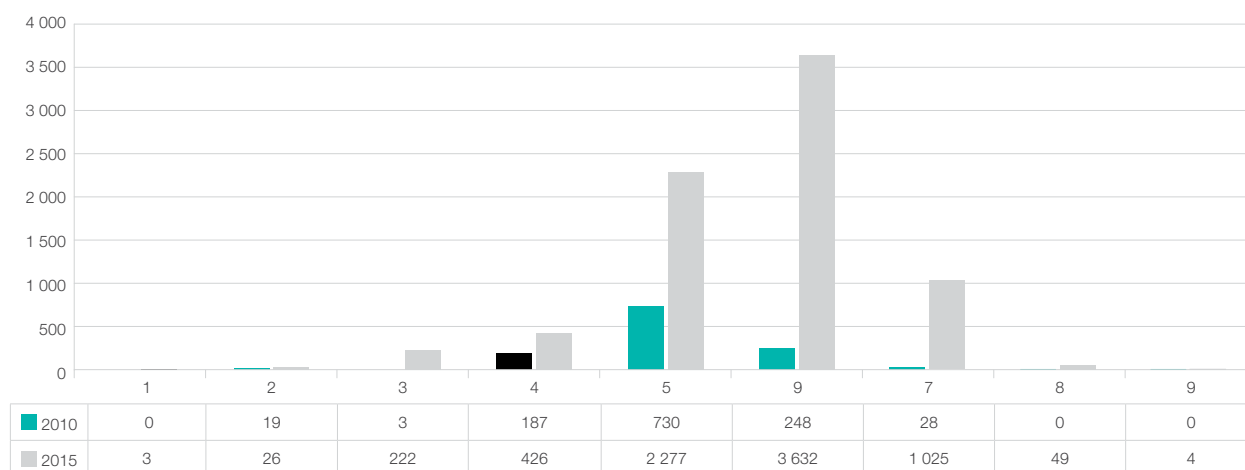
learning opportunities for black individuals, but, in terms of gender representation, there still needs to be far greater improvement with respect to access. The age trends are quite interesting as well, showing that internships are providing access to younger participants, while, in the case of apprenticeships and learnerships, there is actually a trend towards later entry and completion.

However, it is not only important to assess the extent to which a particular programme is contributing to the broadening of access for a bigger proportion of the South African populace. Many stakeholders are also interested in ascertaining how a particular programme is contributing to the development of skills, the critical question in this regard then being: *What kinds of skill does the programme/pathway system produce?* Here, one can investigate the types of disciplines or fields of training that participants are involved in, as well as the level of qualifications. As most apprenticeships are between NQF Level 3 and 4,[8] it is only appropriate to consider trends (between 2009/10 and 2014/15) in the level of qualifications (NQF level) of internships and learnerships.

The recent WPBL policy framework distinguishes between three types of internship: that which is required to achieve a qualification (student internship), that which is required to obtain professional

registration (candidacy), and that which is required to gain work experience only (graduate internship). A further distinction is made in the student internship category in order to recognise student internship that forms part of a vocational (experiential learning) or professional qualification (work-integrated learning). While this is clearly a laudable step towards better organising and recognising the different purposes of internship, it is not yet legislated and the population data would not include these distinctions. Thus, in our analysis of internships, we need to keep these varied purposes in mind.

The data in Figures 6 and 7 highlight the fact that internships tend to provide opportunities mainly at NQF Levels 5 to 7 (the majority of the distribution between NQF Level 5 and 7) (see Appendix 1, Table 42). In other words, most people participating in internships have a higher certificate (NQF Level 5), an advanced certificate/national diploma (NQF Level 6) and/or a bachelor's degree/advanced diploma (NQF Level 7). It appears that internships are used primarily to provide workplace experience as part of, or after, the completion of an advanced certificate/ national diploma level. It is unclear, based on this information alone, whether participation in internships is increasingly a prerequisite for professional registration or graduation. However, the age data could support the latter interpretation. These are interesting nuances that need to be explored further, as they critically affect our conceptualisation of the impact of participation in internships.

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8   There a few at NQF Level 5, such as mechatronic technician for example.

As expected, Figures 8 and 9 confirm that learnerships provide access to qualification over a broader spectrum of the NQF. For registrations between 2009/10 and 2014/15, the biggest growth was found to be at NQF Levels 3 and 4, with the biggest decline in participation being at NQF Level 7.

In terms of completions, there is a different storyline: the most substantial growth can be noted for NQF Level 3, with notable growth at NQF Level 5 as well; the only decline across the system is in respect of NQF Level 4 completions.

Figure 7: NQF-level internships completed, 2009/10–2014/15

	1	2	3	4	5	9	7	8
2010	0	0	0	23	255	450	46	0
2015	10	52	12	191	281	1 433	923	8
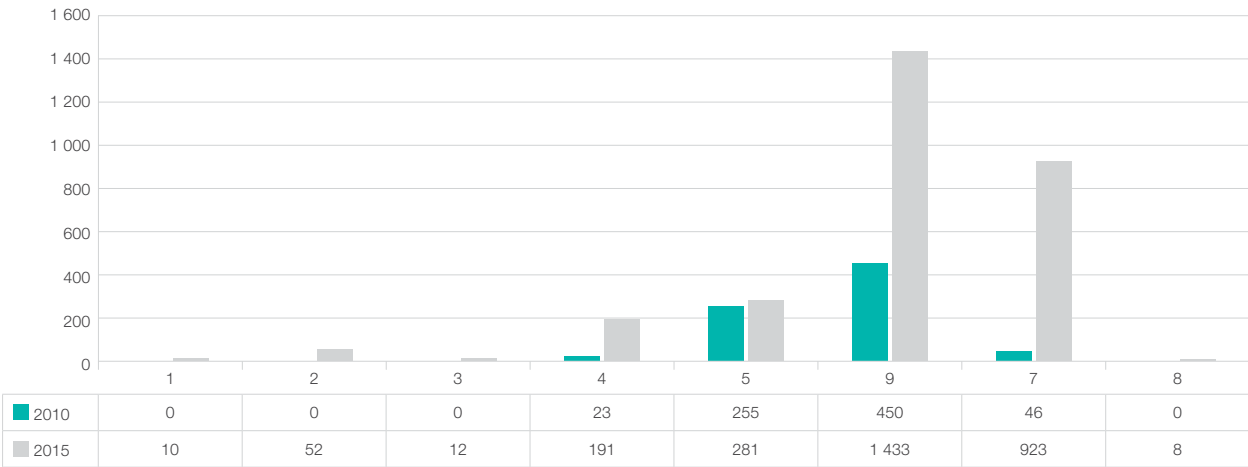
Figure 8: NQF level of registered learnerships, 2009/10–2014/15
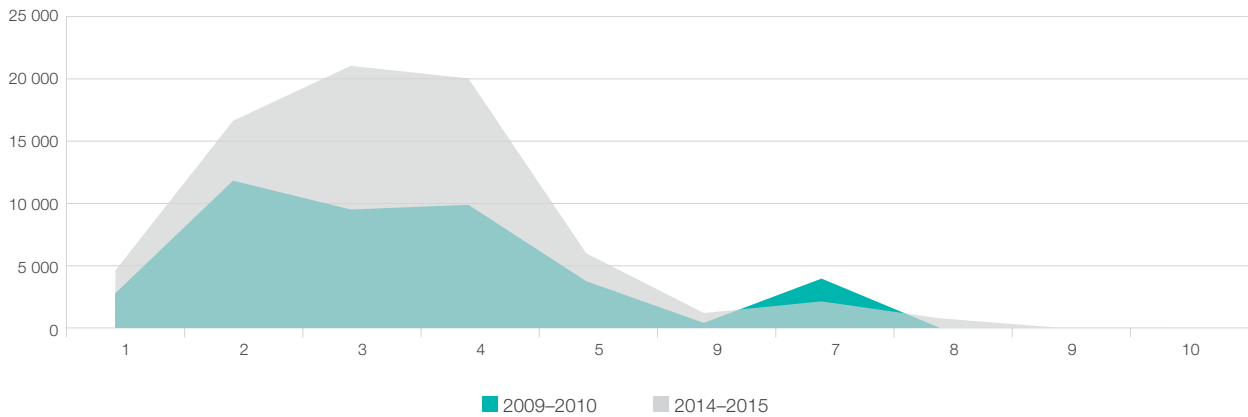
Figure 9: NQF level of completed learnerships, 2009/10–2014/15
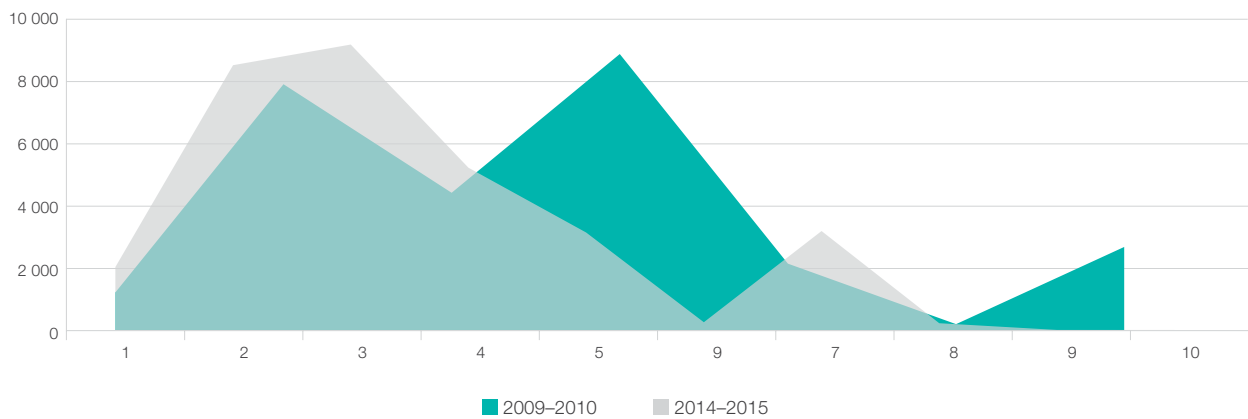
It is also important to consider the fields/disciplines in which participation in different WPBL programmes is taking place in order to better understand the types of skills produced through different pathway systems.

Tables 8 and 9 highlight information technology, engineering, administration and environmental science as fields in which internships are very common. One would expect engineering to be one of the top fields, as an internship has traditionally been a requirement for completion of the education and training programme as well as a prerequisite for professional registration, but it seems to be a growing practice in the information technology, administration and management fields as well. It is notable that social-work internship completions ranked so high in 2014/15, as this field did not appear in the top ten with regard to entries in this period and not even in the 2009/10 completions. An internship has traditionally been a prerequisite for completion of the education and training programme, as well as for professional registration. It would therefore be important to explore whether there has been any change in the requirements for graduation or professional registration in these fields in order to assist with a clearer interpretation of the results.

Table 8: Main fields in which people entered internships in 2009/10 and 2014/15

2010		2015	
Information technology	309	Engineering	1 179
Technician	232	Administration	1 105
Engineering	199	Information technology	973
Environmental health	196	Management	515
Office support	125	Chemistry	198
Administration	121	Human resources	164
Food technology	99	Environmental science	159
Management	99	Agriculture	147
Agriculture	77	Accounting	146
Journalism	77	Building	146

Table 9: Main fields in which people completed internships in 2009/10 and 2014/15

2010		2015	
Administration	169	Social work	452
Engineering	163	Engineering	256
Food technology	99	Management	127
Pharmacy	69	Administration	122
Telecommunications	61	Information technology	97
Environmental health	53	Human resources	78
Human resources	51	Accounting	63
Information technology	44	Agriculture	58
Agriculture	44	Chemistry	57
Management	35	Clinical engineering technician	50

Table 10: Top five trades entered and completed by gender in 2014/15

	Entered					Completed			
	F		M			F		M	
Electrician	1 259	30%	2 870	69%	Electrician	422	20%	1 690	80.0%
Plumbing	687	49%	728	51%	Fitting & turning	127	11%	1 014	88.9%
Fitting & turning	202	15%	1156	85%	Welding	139	13%	896	86.6%
Boilermaking	169	15%	934	85%	Diesel mechanic	40	5%	773	95.1%
Welding	308	26%	888	74%	Rigger	35	5%	736	95.5%

Exploring the same type of information for apprenticeships[9] in 2014/15, but also disaggregating the data by gender, illustrates that particularly fitting and turning and boilermaking registrations were dominated by males, with plumbing being closest to having equal gender representation.

In terms of the completion of apprenticeships, we find that, with regard to the top five trades, diesel mechanic and rigger, in particular, are extremely male-dominated fields. This phenomenon is often referred to as internal segregation and is associated with a lower status being assigned to particular fields (Maclean & Rozier 2009; Wildschut 2010). In other words, the trades in which women are better represented within a male-dominated occupation tend to have a lower status. This has been confirmed in other studies on artisanal trades in South Africa (Wildschut & Akooje 2015) and continues to be an issue hampering attempts at increasing the participation of women in artisanal training and employment in the country.

The more complex questions of impact

In the main, we have to have a clearer and shared understanding of the terminologies in this area in order to support more effective analysis of the evidence available to us in the form of administrative data sets. But, as the preceding section has illustrated, population data can contribute extensively to assessing basic outputs and outcomes. This is a critical starting point in order to support the development of more complex and rigorous data-gathering and analysis methodologies that are needed to answer the more complex questions of impact that SETAs are increasingly required to answer. SETAs need to be better prepared not only to show impact in terms of the size and shape of the systems, but also better

enabled to show effective targeting of available resources with a view to meeting a number of key skills and national development goals.

SETAs are now faced with having to engage with more complex questions, such as:

- Is skills development happening in skill areas that are really in demand?
- Do people who receive training find jobs? Do they stay in those jobs and is the training seen as having appropriately prepared them to function in that job?
- Does participation in different types of programmes offer a high enough return on investment to justify continued, or changes in, funding priorities?
- What kinds of trajectories are individuals participating in different types of programmes likely to have into the labour market?
- To what extent does the programme build skills and capabilities that enhance employment and match demand by firms?

Reflecting on international comparative literature shows us that the main means used to obtain answers to such questions are surveys that measure the processes and outcomes of transition at the level of the individual (Raffe 2008). These are often referred to as tracer or pathway studies. Such microlevel data can then be aggregated to the national level in a number of ways, for different purposes.

In the next section, we present some of the findings made possible through the application of such a tracer methodology in order to assess the impact of learnerships and apprenticeships under NSDS II. We also try to illustrate how it is possible to engage with the types of policy-impact questions that SETAs are currently facing.

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9   This table considers only the top five trades (representing 44% of overall registrations and 55% of overall completions).

4. TOWARDS INSTITUTIONALISING TRACER STUDIES OF WPBL IN THE PSET SYSTEM

Moving beyond the assessment of basic outcomes

In the previous three sections, we reflected on the types of basic-level outputs and outcomes that any skills development programme/intervention has been expected to report on for administrative purposes, and, in some cases, to justify the allocation of funding. We closed by alluding to the equally critical but more complex questions of impact that sector education and training authorities (SETAs) and the Department of Higher Education (DHET) are being required to provide answers for in the post-secondary education and training (PSET) system as they embark on the significant upscaling of workplace-based learning (WPBL).

Vocational and occupational training are intended to address structural issues in the South African labour market by means of skilling and upskilling the labour force to meet the needs of the economy. Consequently, when we consider how we put in place systems to show impact, it is important to measure the success of the system not only in terms of absolute employment outcomes, but also in terms of the nature of entry into the labour market, as well as the type of employment and the level of earnings received after participation. The questionnaire for the assessment of learnerships and apprenticeships in 2012 was thus developed to enable one to reflect on these concerns.

How does the survey tool support the more complex assessments of impact?

We now briefly outline the logic of the instrument to show the themes of investigation that might be possible.

In order to record individual trajectories, the instrument consists of four sections:

- **Section 1 – an introduction:** This section confirms the identities of the learners and the programmes and whether they have completed their programmes. It then establishes their current labour market status: working, working and studying, studying and not working, not working or studying. They are then streamed to one of four sections (called tabs in the survey tool) which explores each of these options further. The same core set of items is packaged as appropriate for each labour market and educational outcome.

- **Section 2 – current labour market and educational outcomes:** For each tab, the nature of the current outcome is established along a set of indicators (nature of work, nature of studying, nature of working and studying, nature of not working). Each set of outcomes then has a section that focuses on the skills outcomes of the programme, and the opportunity to use or not use these skills, as the case may be.

- **Section 3 – transition dynamics:** This section asks the person to think back in order to describe their activities in the years since terminating or completing the WPBL programme. It starts off by setting a baseline year in which the programme was completed. It then asks about the first transition outcome after completing (or leaving) the programme, in terms of the same four outcomes (worked, worked and studied, studied, unemployed). Those who have had relatively stable individual 'navigations' or 'trajectories' will have fewer shifts between unemployment and the labour market or further education and training; conversely, there are those who will have complex, multiple navigations backwards and forwards. Sections 2 and 3, through employing

this retrospective tracking methodology, allow one to gain a sense of the transitions an individual made into a particular programme and out into the labour market, or not. There is a set number of outcomes or transition options, and the questionnaire streams the survey participant through the questionnaire based on the possible outcomes. Below is a diagrammatic representation of the methodology. It allows one not only to get a sense of the number of transitions into and out of a programme, but also to construct a trajectory for each survey participant and then to evaluate, as we do later, common trajectories and the social groups that predominate in them – or, at the very least, the number of transitions into and out of a skills development programme as a proxy for stability.

- **Section 4 – personal information or transitions in other domains:** This section gathers in-depth and extensive personal

information that allows further exploration around the relationship between demographic and socio-economic factors, on the one hand, and education and training and labour market outcomes, on the other.

While the logic of the instrument will remain largely the same for the assessment of any programme, the range of possible transitions will depend on the structure of the particular programme, and this will inform the instrument focus and extent of questions under each theme. For example, the learnership instrument constructed for the study in 2012 was more strongly focused on outcomes after completion of the qualification than on the apprenticeship instrument.

This sums up the broad areas of investigation allowed by the instrument, but we will consider and illustrate the strength and potential of employing such a tool in the next section. We do so, firstly, by

Figure 10: The survey methodology (illustration using possible trajectories into the apprenticeship as an example)
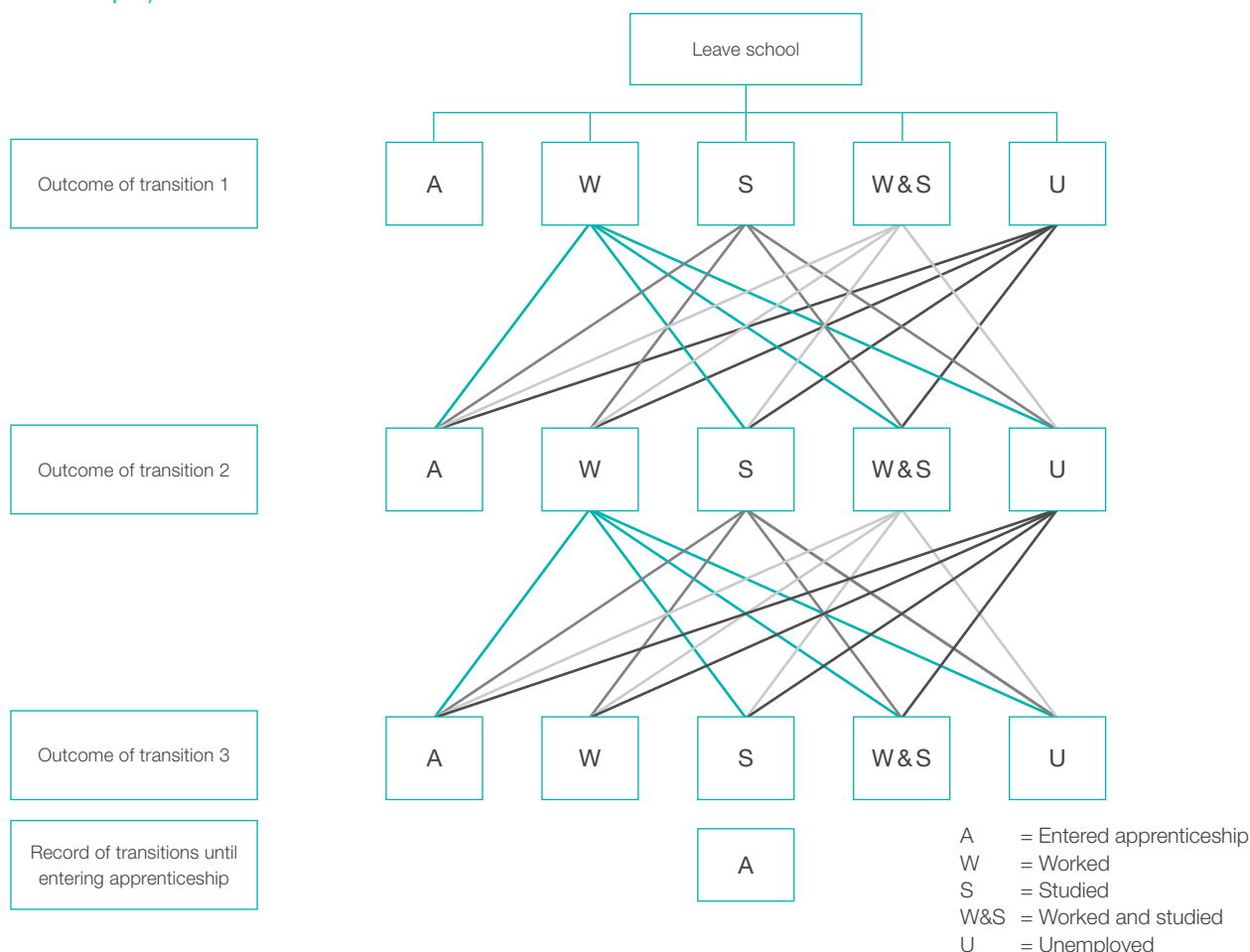
using the illustrative questions referred to earlier in order to frame and highlight the specific items that can be used to answer the questions of impact that policy makers are currently grappling with. Secondly, we illustrate by means of screenshots the specific items that would be relevant in answering each question. The screenshots are of the computer-assisted telephonic interview (CATI) tool as developed in MS Access. This is a visual illustration of how the questionnaire translates into an MS Access version – essentially, each tab represents an education and training or labour market outcome option (as per the questionnaire), with a range of questions relevant to that outcome, as explained earlier (refer to Appendix 2 for the full questionnaire).

Do people who receive training find jobs?
One of the important questions of impact that SETAs are confronted with is: *Do people who receive different forms of training actually find jobs?* The instrument allows this assessment in **Section 2: Current labour market and educational outcomes**.

As the selection of the survey sample would be random and not based on completion status, all individuals who participated in the survey would be included as a variable for analysis. As a first step,

then, answering this question would only require considering the entire survey sample and establishing its labour market outcome. This would give one a sense of the extent to which participation in the programme has affected absolute labour market outcomes for individuals.

The question/variable to be used for this analysis – for example in the apprenticeship survey – would be in the section called 'Path after'. Here, the person's current situation/labour market outcome would be recorded, as well as going into more detail on the nature of the outcome. Specifically, Question 3 in this tab (refer to Screenshot 1 below for an illustration) would be relevant. It would be necessary to do a frequency run on this question for the entire sample, and this would result in a table that contains the percentage of individuals who, at their final destination, were recorded as: working (W), working and studying (W&S), unemployed (U), or studied (S).

The outcome of running a frequency on this variable would result in the following information (illustrated in Table 11). The majority of the sample was still busy with their apprenticeship qualification at the time of the survey, so only 693 participants could be asked about their labour market outcomes. Out of a total of

Screenshot 1

Table 11: Status after apprenticeship by number of transitions

Labour market status after apprenticeship	Transitions			
	1	2	3	5
Worked and studied	6			
Studied	11	15	16	16
Unemployed	126	161	165	165
Worked	484	501	505	506
Total	627	677	686	687

693 apprenticeship participants (73%), 506 reported their current situation as being employed/working. Based on this information, one would be able to state that 73% of participants who had completed their apprenticeships at the time of the survey had a positive labour market outcome. Furthermore, because the analysis allows one to consider the number and types of transitions that individuals make, one would be able to add that 70% of apprenticeship participants move directly into employment (484 individuals' first transition after completing an apprenticeship was into a working position).

If one wanted to further clarify whether these positive outcomes were reflective of participation in, or completion of, the programme, we could do a frequency run to establish the proportion of the sample that had completed or terminated their apprenticeship. From the survey data, the majority of participants had completed their qualification (86%).

Do they stay in their jobs, and is the training seen as having appropriately prepared them to function in those jobs?

After showing that a programme indeed leads to employment, further questions pointing to the quality of the impact often emerge. Is the positive labour market outcome substantive; in other words, is the transition into employment from such a qualification stable and good-quality employment? And then, lastly, is the training that the person received seen as having played a definitive role in obtaining that employment? The first question can be relatively easily addressed through analysing the survey data.

Screenshot 2

Table 12: Nature of employment after apprenticeship

	Frequency	Percentage of total sample	Valid percentage
Contract/temporary	189	12.7	39.8
Permanent	266	17.9	56.0
Casual	20	1.3	4.2
Total	475	32.0	100
No response	48	3.2	
Total employed	**523**	**35.1**	

Table 13: Perceptions concerning requirements for, and appropriateness of, employment

	Yes	No	Total
Did you require any certification for this job?	335 (70.2%)	142 (29.8%)	477* (100%)
Is your job related to your qualification?	424 (89.6%)	49 (10.4%)	473** (100%)

*Note: 79 respondents did not answer this question. **Note: 83 respondents did not answer this question.*

Again, in reflecting on the survey data we have available for apprenticeships, we can see that 70% (484 participants) found employment directly after completion of the apprenticeship, and that this proportion actually increases to 73% (506 participants) when we consider all transitions up until the individuals' current situation (Table 11). This suggests that employment probability does not decrease after the initial employment is found, and so transition into the labour market appears to be quite stable.

Another question in the survey enquires about the nature of the employment, something which is key to understanding whether a system has been successful in ensuring transition into employment for the majority of participants, not only temporarily, but also in a more substantive manner. Doing a frequency run on this variable (Question 9 in Screenshot 2) for apprenticeships would result in a table such as Table 12. Table 12 illustrates that just over half of those who found employment, found permanent employment (56%), with 40% being in less stable contract or temporary jobs and a minority in unstable types of casual employment (4%).

The last part of the policy question is slightly more difficult to answer and requires one to assess whether the training appropriately prepared an individual to function in the job that they are currently in. There are a few questions in the survey that could assist in answering this question to some extent, but the survey could be further strengthened by adding more direct questions. For example, the South African

Social Attitudes Survey (SASAS), in order to measure the match between qualification and employment, poses a few questions that allow exploration of possible overqualification and underqualification. But, to return to the possibilities in this survey tool, we turn to the section that enquires about the nature of the labour market outcome. There are three variables/questions that would be useful. The first question asks whether the individual required any certification for the job he/she is currently occupying, the second one asks whether the job is related to the particular training he/she completed, and, then lastly, if the answer to the previous question is 'No', there is a question asking what the reason for that was (2, 3 and 4 circled in Screenshot 2).

Running a frequency on Questions 2 and 3 provides the following information for apprenticeships (see Table 13). Significantly, 70% of employed participants claimed that they required certification for their current job, while a high 90% claimed that they were employed in a job related to their apprenticeship qualification.

What kinds of trajectories are individuals participating in different types of programmes likely to have into the labour market?

This question is much more complex and requires not only information about the absolute nature of individual labour market outcomes, but also about the way in which people move, or do not move, through a system into a labour market. In other words, this is where the transitions of individuals become of interest.

Table 14: Participant trajectories after a learnership

Transition						N		Transition						N	%
1	2	3	4	5	6			1	2	3	4	5	6		
W						1 650	65.71	U						48	1.91
W	S					168	6.69	U	W					29	1.15
W	B					52	2.07	U	S					16	0.64
W	U					31	1.23	U	W	S				3	0.12
W	B	W				24	0.96	U	B					2	0.08
W	S	W				23	0.92	U	B	S				2	0.08
W	S	W	S			10	0.4	U	W	B	U	W		1	0.04
W	U	W				4	0.16	U	W	B	S			1	0.04
W	B	W	B			2	0.08	U	B	W				1	0.04
W	U	S				2	0.08	U	S	W				1	0.04
W	S	W	S	W		2	0.08	Subtotal						104	4.14%
W	S	U				2	0.08	S						177	7.05
W	B	U				1	0.04	S	W					122	4.86
W	U	W	B	W		1	0.04	S	U					10	0.4
W	U	W	U			1	0.04	S	W	S				6	0.24
W	U	S	W	S	W	1	0.04	S	U	W				4	0.16
W	S	B				1	0.04	S	W	B				3	0.12
W	S	U	S			1	0.04	S	W	B	W			3	0.12
Subtotal						1 976	78.69%	S	W	U				3	0.12
B						64	2.55	S	W	S	W			3	0.12
B	W					17	0.68	S	B					3	0.12
B	W	B				4	0.16	S	U	S				3	0.12
B	W	W				2	0.08	S	W	B	S			1	0.04
B	W	S				2	0.08	S	B	W				1	0.04
B	S					2	0.08	Subtotal						339	13.50%
B	W	B	W			1	0.04	Total						2 511	100%
Subtotal						92	3.66%								

Table 15: Trajectories out of the apprenticeship system

Transition out of apprenticeship system					N	% of trajectories out	% of sample
1	2	3	4	5			
W					484	69.8%	32.6%
W	B				1	0.1%	0.1%
W	U				14	2.0%	0.9%
W	S				2	0.3%	0.1%
W	U	W			2	0.3%	0.1%
W	S	W			2	0.3%	0.1%
W	U	W	U	W	1	0.1%	0.1%
Subtotal					506	73.0%	34.1%
B					6	0.9%	0.4%
Subtotal					6	0.9%	0.4%
U					126	18.2%	8.5%
U	W				33	4.8%	2.2%
U	B				1	0.1%	0.1%
U	S				1	0.1%	0.1%
U	W	U			3	0.4%	0.2%
U	S	U			1	0.1%	0.1%
Subtotal					165	23.8%	11.1%
S					11	1.6%	0.7%
S	W				4	0.6%	0.3%
S	B	W			1	0.1%	0.1%
Subtotal					16	2.3%	1.1%
Total					693	100.0%	46.7%

Answering this question would require a comparison between the transition dynamics (see Section 3) of surveys of two or more programmes. We illustrate this with the data available to us from the learnership and apprenticeship surveys. Tables 14 and 15 provide an overview of what we found to be all the possible transitions out of the particular programme. So, for example, Table 14 illustrates the total number and combinations of transitions individuals made, or did not make, out of the learnership system and into the labour market.

The first row indicates the number of transitions and the letters indicate the type of transition: W – Working, S – Studying, U – Unemployed, and B – Both working and studying. An outcome of W in the first row indicates that 1 650 (65.71% of the sample) experienced only one transition after leaving the learnership, and it was a transition into a W-Working position. The row immediately below, where one sees a W and an S, respectively, under Transition 1 and 2, means that 168 (6.69% of the sample) experienced two transitions after leaving the learnership, of which the first was into a W-Working position and the second into an S-Studying position.

Furthermore, Table 14 reiterates that the most likely first transition after completion of a learnership qualification was into work – W (79% of the sample), and a total of 86% of the sample ended up in a working position. Those participants whose first transition after leaving/completing the learnership qualification was into working and studying at the same time (B) did not experience unemployment in their trajectory. This group only represents roughly 4% of the sample. They appear to be preparing themselves for a specific career path by working and studying further for an extended period.

Table 15 provides the same summary of all the possible sets of transitions and trajectories out of the apprenticeship system. The important trend, which supports our earlier assessment, is that

the majority of participants experience a single transition into employment (70% of the subsample). Furthermore, a total of 76% of participants who completed an apprenticeship ended up in employment. Only a few individuals experienced a zigzag trajectory that ended in employment, and some 2% moved to other or further study after completion (11).

A comparison of the overarching outcomes in respect of these two programmes indicates that labour market absorption is slightly higher for those who participated in learnerships than for those who participated in apprenticeships. This type of analysis moves beyond the assessment of outputs and outcomes of a skills development system towards an assessment of impact. It also goes some way towards addressing one of the common criticisms associated with the assessment of pathway systems. In this regard, Piopiunik & Ryan (2012), in their meta-analysis of OECD approaches to assessing the impact of a particular 'transition system', note that the absence of a counterfactual (comparable group) complicates the assessment of the real impact that any active labour market intervention or education and training programme might have had. We would argue that, while each of these systems is relatively different, comparing particularly the labour market outcomes across the learnership and apprenticeship system provides some form of counterfactual, in that they do capture and target a sizeable group of similar individuals.

As explained earlier, the methodology also allows the identification of the most common trajectories of individuals out of the particular pathway system. Once identified, it is possible to disaggregate by a range of variables in order to examine more closely in which way certain patterns of social exclusion may be perpetuated in different systems.

Table 16 illustrates such an analysis for apprenticeships and shows that Working (W),

Table 16: The three most common trajectories after the apprenticeship system

Trajectories	Frequency	% of trajectories after	% of sample
W: worked	484	69.8	32.6
U: unemployed	126	18.2	8.5
U–W: unemployed, worked	33	4.8	2.2

Unemployed (U) and Unemployed then Working (U–W) are the three most common trajectories. What this again highlights is that, after participation in an apprenticeship, roughly 70% of participants move directly into employment and do not experience a subsequent transition. The majority of participants who left the system thus experience a smooth and linear transition into work.

For learnerships, there are two main trajectories. Firstly, participants move quickly into employment and remain in employment, and, secondly, if participants do not enter employment, they are next most likely to study. Exploring the profiles of individuals involved in these most common trajectories allows one to assess patterns of social exclusion in participation and outcomes (Table 17).

Looking more closely at the group of individuals who do not enter into employment and would be most likely to be studying, we found the majority are African (95%), and, proportionately, this was higher than the representation of Africans in the sample overall (86%). African females (58%) dominated this trajectory after learnership participation, which is particularly significant, as

the overall sample was dominated by African males. This suggested a racialised and gendered pattern in the demand for education and training after a learnership qualification. It could reflect higher aspirations among African participants or that African participants regard further occupational certification or educational achievement as a means to overcome barriers to entry into the labour market. It may be that they struggled to access the labour market, or decided to continue studying owing to poorer performance in their learnership training.

Looking in the same way at individuals' transitions into a programme also gives one a sense of patterns of social exclusion that could translate into transition into the labour market. In other words, it is important not only to look at how people transition, or do not transition, into the labour market, but also to more clearly investigate the nature of entry into programmes. The retrospective tracer methodology also enables such an analysis quite powerfully. Similar to the way in which individuals are asked to explain what they did directly after leaving the programme and recording the steps/transitions, individuals were also asked to trace and explain the transitions or steps they took directly after school before entering into

Table 17: Race and gender of those studying after participation in a learnership

	Female	Male	Total
African	218	158	376
Coloured	4	9	13
Indian	0	1	1
White	1	3	4
Total	223	171	394

Table 18: Transitions out of school and into an apprenticeship

Transitions	N	% of sample
1	58	3.9
2	701	47.3
3	555	37.4
4	141	9.5
5	26	1.8
6	2	0.1
Total	1 483	100

Table 19: Most common trajectories into an apprenticeship

	Race					
Trajectories	African	Coloured	Indian	White	Other	Total
S–A	282 (82)	16 (5)	3 (1)	41 (12)	2 (1)	345 (100)
S–W–A	273 (82)	14 (4)	10 (3)	34 (10)	1 (0)	333 (100)
W–A	186 (60)	40 (13)	14 (5)	66 (21)	4 (1)	316 (100)
A	22 (38)	4 (7)	1 (2)	31 (53)	0 (0)	58 (100)

the particular WPBL programme. Tables 18 and 19 illustrate this by using such analysis for individual entry into an apprenticeship programme. Table 18 shows that entry into an apprenticeship directly after school is not the most likely trajectory. Only 4% of the sample entered into an apprenticeship directly after school, with the majority entering after two (47%) or three (37%) transitions.

Table 19 adds another dimension to this story. When one disaggregates the three most common trajectories into apprenticeship by race, we find that white individuals are the most likely to enter into an apprenticeship directly after school (representing 53% of those that constitute this group).

We have illustrated that trajectories analysis, when disaggregated by race and gender, can show whether patterns of social exclusion persist in these programmes, but the tool also has other items that help in this regard.

Does participation in these programmes shift patterns of social exclusion?
In view of the fact that information is captured on an individual's location at different points, the tool also allows one to consider spatial inequalities in participation in WPBL programmes. This information captured by the survey on apprenticeships shows net migration into the more urban and better-resourced provinces such as the Western Cape (WC) and Gauteng (GP), and out of the less-resourced and more rural provinces such as Limpopo (LM) and the Eastern Cape (EC). Net migration into Gauteng constitutes the largest movement into a province, while net migration out of Limpopo represents the largest movement out of a province.

The data indicates that there are very few apprenticeship opportunities in some regions, including the Western Cape, and, in fact, that there are sizable concentrations of apprenticeship training and employment opportunities only in Gauteng and KwaZulu-Natal (KZN). This information can, for example, be used to support a policy decision to stimulate training and employment opportunities in the medium term in less-resourced provinces.

As the tool asks questions concerning, for instance, family background, living circumstances and salary, it would also be possible to construct an indicator for the socio-economic status (SES) of

Screenshot 3

Table 20: Geographic spread of apprenticeship participants

Province	Where they grew up	Where registered	Where living now	Net migration
EC	190	117	130	Out (60)
FS	83	71	57	Out (26)
GP	289	646	597	Into (308)
KZN	438	421	412	Out (26)
LM	258	72	106	Out (152)
MP	83	44	55	Out (28)
NC	16	5	11	Out (5)
NW	48	20	27	Out (21)
WC	72	85	86	Into (14)
Missing	6	2	2	
Total	1 483	1 483	1 483	

Note: Missing values include those where respondents refused to answer this question. With regard to the 'Where they grew up' variables, these include four cases where a foreign country was indicated.

Table 21: SES score disaggregated by race

Race	Mean
African	2.0760
Coloured	2.8107
Indian	3.4503
White	4.9573
Other	4.0770

Table 22: SES mean score disaggregated by most common trajectories

Trajectories	Mean	N	Standard deviation
S–A: studied, entered apprenticeship	3.37	345	2.76
S–W–A: studied, worked, entered apprenticeship	2.59	333	2.31
W–A: worked, entered apprenticeship	2.61	316	2.36
A: apprenticeship straight after school	4.04	58	3.05
Total	2.93	1 052	2.56

a survey participant and use this as a variable to analyse its impact on education and training and labour market outcomes, or participation in particular trajectories (see Screenshot 3). For the learnership and apprenticeship survey, participants responded to several items regarding their socio-economic status, or their 'standing in society', in terms of parental education and type of work, housing, schooling, urban/rural location, and access to transportation. These items were coded into a series of binary variables in order to perform principal component analysis. Principal component analysis identifies the components within multidimensional data. The first component was then extracted as an index for participants' level of socio-economic status (Filmer & Pritchett 2001). This was thereafter used as a variable to further analyse outcomes and trajectories.

A consideration of race and SES in, for example, the apprenticeship survey (Table 20) indicated a continued relationship between the two. Whites were likely to have the highest mean and Africans were likely to have the lowest SES.

Consideration of the average SES score[10] in the apprenticeship survey and disaggregating the information by the most common trajectories into an apprenticeship indicated that those who enter into an apprenticeship straight after school (A) are likely to have a higher average SES in comparison with the three most common trajectories (Table 22). Given that the majority of those individuals who enter into an apprenticeship straight after school

10 The minimum SES score is -2.88, and the maximum score is 10.15.

Figure 11: Relationship between SES and income
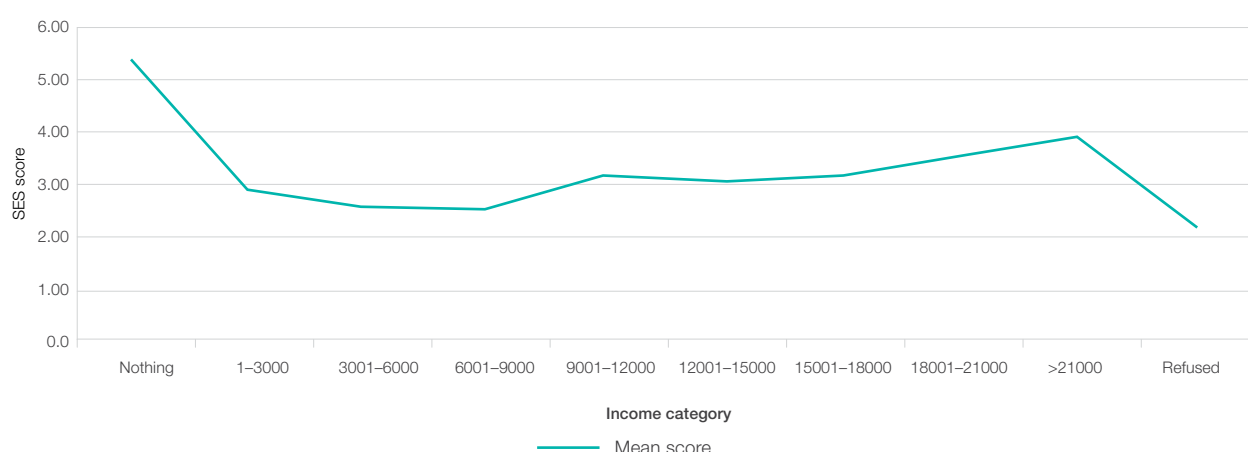
(the A group) are white participants, we concluded that, for apprenticeship participation, race and SES are indeed highly related and unfortunately continue to impact on the likelihood of specific trajectories for an individual. The most complex common trajectory, S–W–A was pursued by those with the lowest SES score, although this is very close to the SES score of those who worked before the apprenticeship (W–A), suggesting that both these trajectories are pursued by those who have fewer opportunities for further study on leaving school.

We further examined whether there were relationships between the SES of participants and their income potential and labour market outcomes. If the apprenticeship had been successful, there would be no relationship between SES and these variables. However, if the apprenticeship had not been successful in mitigating the impact of an individual's social-economic background, there would be a positive and linear relationship between SES and income (with income rising as SES rises).

Figure 11 shows a very erratic trend, a trend that does not indicate a clearly positive or negative relationship between SES and income. This finding could suggest that other factors, including the apprenticeship training, are more determinate of the eventual income of apprenticeship participants. This trend is positive, suggesting shifts in the impact of historical disadvantage on eventual income. Taken together with the preceding information, we can thus assert that, while there appears to be a close relationship between SES and the nature of an individual's participation in the apprenticeship

programme, this does not appear to have an impact on one's eventual earning potential.

This brief illustration shows that the items included in the questionnaire allow quite an extensive investigation into the relationship between SES and the nature of an individual's training and education and labour market outcome. Another aspect that often comes under scrutiny is whether skills development is happening in skill areas that are actually in demand.

Is skills development happening in skill areas that are really in demand?

This question is quite similar to the one on whether the programme builds skills and capabilities that enhance employment and match demand by firms. It is not an easy question to answer definitively, as labour market demand is quite fickle and there are quite a few (contested) measures. However, this is an area or set of questions that is very important and one that is aligned with current DHET endeavours to strengthen national capabilities to plan for the provisioning of skills that are shown to be in demand in the country.

In answering this question, one would have to rely on combining the insights from a survey such as the one we have discussed up to now, with another set of available and relevant variables on labour market demand (e.g. a list of scarce skills or a list of occupations in high demand). In other words, answering this question requires information on: (1) the educational outcomes of a particular programme; (2) the absolute labour market outcome of an individual; (3) the characteristic of the labour

Table 23: Percentage completion across age groups

	Total
Completed	2 162
Terminated	361
Total	2 523
% completed	85.69%
% of sample	100%

Table 24: First transition of learnership participants

Transition 1	Acronym	N	%
Worked	W	1 976	78.29%
Studied	S	339	13.43%
Unemployed	U	104	4.12%
Both worked and studied	B	92	3.65%
No response		13	0.52%
Total respondents		2 511*	100.00%

Note: This excludes 13 respondents who did not complete the relevant section

market outcome; and (4) some external demand identification – essentially, information that will allow one to assess the link between the labour market and educational outcome of an individual in line with nationally identified priority sectors and/or occupations at a particular point

In order to facilitate this analysis, the questionnaire includes an item that assesses whether the individual has completed his/her qualification as well as whether he/she is currently employed, and, lastly, asks a range of questions that establishes the nature of employment (occupational category, sector, economic sector). This would provide an indication of exactly what kind of employment the individual is in, and then an external list (such as of the occupations in high demand or in relation to the objectives of the National Development Plan (NDP)) will assist in answering whether the skills development has led to employment in a demand sector/occupation.

As Table 23 indicates, the first part of the puzzle is to establish the percentage completion in relation to participation in the particular programme. Here, we illustrate the process again, but reflect on the analysis of the learnership programme. From this, it is clear that 86% of learnership participants had completed their programme, with a small minority having terminated participation without completing the qualification.

The next part of the analysis needs to establish the absolute labour market outcomes of participants.

Here, it is important to establish the first and last transitions. The first transition after participation in a skills development system is significant, as it might influence a participants' trajectory. Similarly, the final transition is important, as it indicates the outcome of the learnership participation. Table 24 reflects the first transition of survey participants disaggregated by labour market outcome. A high 82% reported that they were employed after their first transition, straight after completion of the learnership, and a very low 4% reported that they were unemployed. A small group of 13% was studying further in some way, and only 4% reported that they were studying and working simultaneously.

Completion of a learnership qualification is thus extremely likely to result in employment, which is a strong indicator of positive impact. Then, to assist in answering the final part of the question, the survey includes items to ascertain the company size; economic sector, and broad occupational category in which an individual found employment (see encircled items in Screenshot 4).

After analysis of these variables, we conclude that learnership participants were primarily being absorbed by large private and government organisations in the formal sector. Table 25 further indicates that the largest proportion found employment in the community, social and personal services sector (38%). The second-largest group (15% of the sample) were employed in the financial

Table 25: Economic sector in which participants were employed

Economic sector of company	Working	Working and studying	Total	Percentage
Agriculture, hunting, forestry and fishing	25	1	26	1.33%
Mining & quarrying	56	2	58	2.98%
Manufacturing	178	4	182	9.34%
Electricity, gas and water	158	10	168	8.62%
Construction	77	9	86	4.41%
Wholesale and retail trade	110	8	118	6.05%
Transport, storage and communication	86	9	95	4.87%
Financial intermediation, insurance	260	37	297	15.24%
Community, social and personal services	701	39	740	37.97%
Private households with employed people	48	0	48	2.46%
Unsure	60	1	61	3.13%
Other	68	2	70	3.59%
Total	1 827	122	1 949	100.00%

intermediation and insurance sector. Further disaggregation by SETA found that these were likely to be participants registered with FASSET, BankSETA and ISETT, whose learnerships were at higher skill levels and related to occupations with well-established occupational training and certification pathways. The lowest numbers were employed in the agriculture, hunting, forestry and fishing sector.

Disaggregation by occupational category confirms that the majority of participants ended up being employed in community and personal services occupations (Table 26), with sizable groups of professional, technical and trades, and clerical and administrative occupations. We need to bear in mind that these occupational categories are a mixture of self-reporting and of the interviewer's interpretation and categorisation of the occupation

Table 26: Occupational categories in which participants were employed

Occupational category	Contract		Permanent		Casual		Total
Labourer	20	24%	56	67%	7	8%	83
Machinery operators and Driver	33	16%	168	81%	6	3%	207
Sales worker	19	17%	86	75%	10	9%	115
Clerical and administration	33	12%	230	85%	7	3%	270
Community and Personal service	47	9%	475	89%	9	2%	531
Technicians and trades	30	10%	258	88%	4	1%	292
Professional	35	9%	340	90%	4	1%	379
Manager	6	7%	76	92%	1	1%	83
Total	**223**	**11%**	**1 689**	**86%**	**48**	**2%**	**1 960**

indicated by the respondent. Nevertheless, aside from community and personal services and labourers, which are difficult to categorise, most of the employment is in occupational categories that require intermediate and high-level skills.

Of note is that 86% of participants reported that they were employed in permanent positions, with very few finding casual employment (2%). From a sectoral perspective, it seems that contracts are most likely in the labourer category, and permanent positions most likely in the professional and managerial categories. Casual jobs are most likely for sales workers. Taken together, these trends suggest that learnership participation facilitates transition into stable employment opportunities for the majority of participants.

Another item that could also offer some assistance in answering the present question is the one enquiring whether the current employer is the same as the employer where the individual completed his/her workplace training. While, on the one hand, this testifies to the success of workplace training in ensuring trust to employ, on the other, it could also support the assertion that skills gained through the qualification are indeed recognised by the employer as useful and in demand, and thus the particular individual was employed.

Running a frequency on this variable (*Is your current employer the same employer…?*) for learnerships illustrates that, of the 2 021 employed participants, 52% (1 041), or just over half, were employed at the same workplace as that where they underwent their experiential training. This

indicates that ensuring opportunities for work experience placements could contribute significantly to ensuring employment, but, conversely, highlights that roughly half of employers who train are not employing the skilled talent that they have nurtured. The ability to answer this question more directly could only be aided by employer data, that is, where one could ask employers broadly at least whether they believe that particular learnerships or apprenticeships provide them with the skills that they require.

In sum, then, the survey tool gathers information that allows one to substantially answer questions as to whether a particular training programme is indeed providing skilling in areas that are in demand in the country. The tool allows this when combining data on educational outcomes, labour market outcomes, and information on the characteristics of the educational and labour market outcomes. This yields substantial information which, if compared with an appropriate list of occupational and sectoral needs, allows one to assess whether training is happening in the areas currently indicated as in demand by a range of stakeholders (employers or the government).

Does participation in different types of programmes offer a high enough return on investment to justify continued, or changes in, funding priorities?

Another question often asked by funding agencies and government departments is: How do we justify decisions to increase or decrease spending with regard to different programmes? Often, there is no way to adequately indicate which programmes

represent better value for money in terms of their labour market outcomes.

We are confident that funding priorities can in fact be directed by the information coming from a study such as the present one. As we have illustrated in the sections above, the tool used by us can show the education and training outcomes, and offers the possibility of linking this to labour market absorption and the nature of particular labour market outcomes for a programme. If return on investment is judged as successful entry into the labour market, the tool offers the ability to show the rates and, in the case of the learnership and apprenticeship surveys, showed that upwards of 75% of individuals who participated in these programmes transitioned into stable employment. This should be enough information to contribute to the assessment of whether this would support a decision to change the funding, or continue funding, of a particular programme in relation to another programme. Lastly, funding priorities can also take into account the occupations nationally identified as being in high demand and direct funding in the short term to support these.

In short, the methodology allows reflection on the impact of a range of variables on the extent and type of participation evident for different groups of individuals through different programmes, and can highlight potential systemic blockages and areas

for targeted intervention. It also offers points of analysis at entry, as well as through and out of a programme into the labour market. In other words, it does not just consider transition into the labour market, but also allows reflection on entry into a programme as another variable that contributes to an individual's trajectory through a programme into the labour market, or not. By also enquiring extensively into a range of socio-economic and demographic variables, such a survey allows for the evaluation of covariance and the exploration of the differential impact of key variables. So, for example, it would be possible to assess whether race plays a bigger role than family background. However, a critical precursor to such an analysis is to ensure that these variables are more consistently answered than was the case in our surveys.

The final section of the report offers a brief summary of the methodology and design underpinning the results. It consists of the research instruments and manuals that can serve as templates for the broader exercise of institutionalising tracer studies coherently in the PSET system in order to support more rigorous assessment of the impact of a wider range of education and training interventions along an individual's training and career trajectory. This will inform the conclusion, in which we deal more explicitly with the considerations for underpinning the extension of such a methodology.

5. A RETROSPECTIVE TRACER STUDY ON THE EDUCATION AND TRAINING AND LABOUR MARKET OUTCOMES OF A WPBL PROGRAMME

Conceptual underpinning

The present study adopted a pathways conceptual approach, that is, it focused on the pathways of (young) people in the transition from school to unemployment/employment, to various forms of further study, and then into the labour market (Raffe 2003). The pathways approach focuses on the characteristics of participating individuals as well as on their progress through, and the outcomes associated with, each of a range of contextually defined pathways. Such an approach allows an assessment of the extent to which vocational education and training systems equip young people with the right kinds of skills required in the labour market through a range of mechanisms, whether apprenticeships, learnerships, other forms of traineeships, further or higher education (Curtis 2008; Marks 2006; Harris et al. 2006; McMillan et al. 2005; Dumbrell 2003; Figgis 2001).

The methodology of pathway studies is typically longitudinal surveys of a cohort that track progress through the final years of schooling and into post-schooling education and training and the workplace. In the absence of such longitudinal national studies in South Africa, a methodology of constructing a population database and then tracking this cohort over time through telephonic surveys has been developed (HSRC 2007) in order to assess the impact of learnerships and apprenticeships.

The methodology and design

The design entails creating a population contact database from sector education and training authority (SETA) administrative records in order to draw a sample for a tracer study. A computer-assisted telephonic interview (CATI) tool is used to enhance the response rate. The instrument is influenced by Australian longitudinal studies, but includes a new technique adopted from Robinson (2004) to trace pathways. Figure 12 shows which kinds of data sets were used and the samples that were realised, while Table 27 shows the relation to the research questions of the project.

We have dealt extensively with the advantages of employing tracer-study approaches and, by extension, the advantages this would have for our evaluation of the impact of different programmes within the post-secondary education and training (PSET) system. But it is also important to confront the common stumbling blocks associated with tracer studies in order to realistically engage with the institutionalisation of such studies in the wider PSET system in South Africa.

Common stumbling blocks to conducting tracer studies

The most common criticisms of tracer studies relate, firstly, to their 'small' sample sizes, which, of course, impacts on the extent of generalisability of the findings. Secondly, there are the related issues of the effects of attrition and selection bias. These two aspects are said to impact on the interpretation and generalisability of the eventual findings in much the same way. Both are claimed to introduce a bias to the findings through the non-random exclusion of certain groups of individuals – this applies to both selection into the survey and dropping out of the survey. In other words, it is asserted that the group of individuals included and retained in the survey tends to be the most advantaged or disadvantaged in society, and that the findings emerging from the analysis of the survey results will thus not be generalisable to the rest of the population. It is also quite common to encounter claims that the positive or negative assessment of the impact of certain interventions or education and training programmes is such by virtue of the characteristics of the groups

Figure 12: Data gathered for the impact assessment of learnerships and apprenticeships under NSDS II

2006/07 Learnership baseline	2009/10 Learnerships	2009/10 Apprenticeships baseline	2009/10 INDLELA

POPULATION DATA

SETA data of all participants since inception until 28 May 2007. Mostly NSDS I **243 729**

DHET data of all registered and completed participants during 2009/10

DHET data of all registered and completed participants during 2009/10

Cohort 6
INDLELA data on all applicants for whom appointments were arranged **5 608**
(Certified competent **2 303**)

Cohort 1
Population year 1 of NSDS II **53 644**

Cohort 2
Registered **43 569**

Cohort 3
Completed **28 410**

Cohort 4
Registered **9 316**

Cohort 5
Completed **3 432**

SURVEY DATA

SETA data CHETA, ESETA, MERSETA, SERVICES, TETA **10 153**

*Survey of year 1 **6 815**

Used survey of year 1 **2 524 (37%)**

*Survey **1 483 (15%)**

NSDS Phase 1 (2001 to March 2005), NSDS Phase II (April 2005 to 2011)
*Stratified random sampling by SETA, NQF level of learnership (low, intermediate, high) employment status (18.1, 18.2)
*Stratified random sampling by SETA
INDLELA: Institute for the National Development of Learnerships, Employment Skills and Labour Assessments

Table 27: Research questions and data sources for the impact assessment of learnerships and apprenticeships under NSDS II

	Learnerships	Source	Apprenticeships	Source
What kinds of skills does the pathway system produce?	Population trends of the 2005/6 and 2009/10 cohorts	DoL/DHET database	Population trends 2009/10	DoL/DHET database Indlela database
What are the different pathways in the transition to employment?	Follow-up survey tracking pathways of the 2007 cohort	HSRC 2007 database	Survey tracking pathways of 80% of apprentices in 2009/10	New database with assistance of five SETAs
	Survey tracking pathways			
To what extent does the pathway system build skills and capabilities that enhance employment and match the demand by firms?	Three case studies: low-, intermediate- and high-level skills sectors			Interviews with employers and training providers; sectoral data

that tend to be included in the assessment, rather than participation in the programme. Although recent analysis (Branson & Kahn 2017) suggests that, at least with regard to the particular tracer survey examined, the fact that selection is non-random does not necessarily suggest that the findings of the survey will be biased.

The other major issue is that of access to identifiable information, because most types of tracer studies require access to some form of identifiable information. For example, a tracer study employing a matching methodology will often use ID numbers as a way to match individuals across different datasets in order to establish a set of transitions of an individual through different pathway systems, or a tracer study employing a telephonic methodology will require contact details of individuals. We briefly engage with, and consider, each of these limitations so as to inform efforts to institutionalise such studies in the PSET system in South Africa.

Part of the research for this scoping study incorporated the insights emerging from key stakeholder interviews in order to provide a sense of the current practices concerning tracer studies and the state of play and perspectives with regard to extending them in the system. The main stumbling blocks identified through the interviews were lack of access to identifiable information and data inconsistencies across the system, particularly the data inconsistencies arising from unclear definitions related either to workplace-based learning (WPBL) as a whole or to particular forms of WPBL.

Access to identifiable information

A key concern of some of the stakeholders is the issue of confidentiality, which is an issue that has re-emerged with the enactment of the Protection of Personal Information (PoPI) Act. One respondent admitted that this was a contested issue within their department. There are those who are of the opinion that such studies infringe on the rights and 'personal aspects of the human being, in that [one[actually [has] to go to someone and speak to them, which ends up being very uncomfortable' (DHET official). Others are also of the view that, because tracer studies can gather very detailed information, especially the contact details of the learner, it would be contravening the provisions of the PoPI Act if their departments were to distribute such data.

While confidentiality is seen as an issue, some have overcome this when conducting tracer studies in their particular subsystem. And some have circumvented the issue by asking participating SETAs through which they administer the surveys to add a clause in their registration forms so that, when individuals register for a programme, they have to consent that, for research purposes alone, the institution can use their personal information.

Access to identifiable information has often emerged as a potential stumbling block to conducting tracer studies and thus the team believed that it was important to also include a review of graduate tracer studies across the world and how other research groups have dealt with the issue. The tracking of graduates at a national level is common in Australia and many European countries. Such data is frequently employed in planning and developing

higher education policy (Gaebel et al. 2012; Schomburg & Teicher 2006; Schomburg 2003).

Tracer studies tend to be conducted mainly by higher education institutions, which use data from university or funding records to track graduates. Some countries have a centralised approach whereby education and training institutions collect data and distribute it to a central, national database administered by a national body. In most instances, the national body and higher education and research institutions combine in a joint initiative designed to collect student data and conduct tracer studies, which are financed by the ministries responsible for the particular subsector. Because of the critical role that such information can play in planning and development, higher education and research institutions are trying to deal with access by adhering to the basic principles of research ethics, while at the same time still complying with national legislation.

Some debates and contentions in the academic literature relate to the following issues:

• Privacy versus confidentiality;
• Waiver of the right to privacy;
• Informed consent:
• Burdens and benefits;
• Release versus disclosure;
• Actions needed (be they legislative or structural);
• Anonymity; and
• The purpose of collection.

(ANDS 2012; Gaebel et al. 2012; ACER 2010; Schomburg & Teicher 2006; Schomburg 2003)

One of the critical points to highlight in relation to this issue is that, while many of the themes around access to personal information apply within the context of trying to institutionalise such research in South Africa, many of the strict protocols that tend to surround the use of personal data and information are seen as not applying, or are severely relaxed, where research is concerned (http://www.napier.ac.uk/). In the main, the general rule is that, 'where processing for research purposes (including statistical or historical purposes) is not used to support measures or decisions targeted at particular

individuals, and will not cause substantial distress or damage to a data subject, the data gathered for research purposes is exempt'. Whilst an exemption may be relied on, researchers must be aware that there is no blanket exemption that guarantees access to identifiable information in all cases. This therefore means that:

- Research subjects should **be informed** of any new data-processing purposes.
- Research subjects must be able to **meaningfully exercise their right to object** to the data processing on the grounds that it would cause, or has caused, them significant harm or distress.
- Requirements for **appropriate security of data** must be observed, particularly with regard to sensitive data.
- Principles converge around **explicit** consent by individuals, a **data privacy protection** structure, or an appropriate **data protection contract** with the data recipient.

In short, researchers wishing to use sensitive personal data should be able to do so if they can demonstrate a significant public interest, or if they have secured the approval of the institution in possession of the information and they adhere to the procedural safeguards required by law. On the whole, legislation recognises that the value of access to personal data in research may outweigh an individual's desire to exercise a high level of control over the use of his/her data (Fielding et al. 2008).

Data inconsistencies

Another issue to emerge from further analysis of the stakeholder interviews is that, while there has definitely been extensive improvement in data gathering and management with regard to the SETA population data sets that would form the basis of tracer studies, some data is still problematic. One respondent asserted: 'There is much improvement in the data collected from SETAs, and looking at their validation reports from previous financial years, and even this financial year, there's an improvement [in that data is] more accurate, and evidence is more available when you ask for it' (DHET official). However, there is also general acknowledgement

that there is still much work to be done to strengthen this capacity across all the subsystems. For example, Higher Education Management Information System (HEMIS) data has a longer history and tradition and is much more advanced in comparison with the data gathering and analysis capacity of other subsystems such as technical and vocational education and training (TVET), for example.

Stakeholders believe that a big part of addressing data inaccuracies would be to clarify and streamline roles so that duplication can be minimised between TVET, the HEMIS and SETAs, and, with particular reference to WPBL, to have more shared definitions across subsystems. While much progress towards the clarification of terminologies, particularly around WPBL, has taken place over the last few years, many respondents were still of the opinion that this remains a big stumbling block in the institutionalisation of tracer studies. They are of the view that the confusing terminologies make an integrated and comprehensive data system and accurate data capturing difficult. One respondent asserted that 'WPBL programmes are not properly defined' (DHET official). Another respondent for example highlighted the fact that the TVET system tends to refer to WIL whereas the higher education (HE) system refers to experiential learning, 'and each one of them has a different mechanism for competency… '(DHET official).

Over the last few years, there have been major changes to both the conceptualisation and also the capturing of information about WPBL. For example, in relation to apprenticeships, and after the introduction of National Skills Development Strategy II (NSDS II), a directorate within the Department of Higher Education and Training (DHET) was established to respond to artisan development, particularly national artisan development. This directorate was assigned sole responsibility for ensuring coordination nationally of training, certification, and information on artisans. This has led to a situation where, in essence, all WPBL programmes that lead to artisan status have been taken out of the normal four categories of reporting and are reported on directly to this directorate.

Stakeholders, although aware of the new types of programmes that are evolving on the new SETA

landscape under NSDS III, are all quite clear that specific training programmes in the form of learnerships, internships, skills programmes and apprenticeships remain the cornerstone of workplace training programmes. Moreover, these are still the main categories for gathering education and training data in the workplace. In addition, they continue to differentiate between employed and unemployed candidates (status at entry) and completion.[11]

A respondent indicates: 'In terms of learnerships, the kind of information we receive is clear and it is interpreted in a common way across the system', and 'apprenticeships are well understood within DHET' (DHET official). Many are still of the view that there are varying understandings of what an internship is. This has implications for the way in which SETAs are reporting and would have

implications for the gathering of reliable data – some confusion is still evident in differentiating between student and graduate interns as well as regards the term 'candidacy'. The same respondent summarises the concern regarding internship and skills programme data by asserting: '[An] internship is [structured] by the employer and [is] not clearly defined; [a] skills programme takes a mix of proper academic learning [and] SETA programmes and [puts together] a "fake" programme. The problem with skills programmes is that they are not nationally recognised' (DHET official). From engagements with these key stakeholders, it is thus clear that, in their view, learnerships and apprenticeships are the best-defined WPBL programmes with a more established history of data preparation and capture. Consequently, information on such programmes would form a reliable basis for the findings emerging from a tracer study.

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11 Stakeholders acknowledge the difficulties inherent in improving the accuracy of completion data, stating that there is still a discrepancy between completions (which tend to be based on a statement of results) and certification.

6.   CONCLUSION

With the entire post-secondary education and training (PSET) system being subject to public scrutiny and extensive criticism, it is becoming increasingly important for subsystems, and programmes within these systems, to demonstrate the impact of their funding support.

Analysis and investigation with regard to the impact of different types of programmes within the PSET system, using tracer-study methodologies, has been an area of research and policy focus for quite some time (Walker & Fongwa 2017; Rogan & Reynolds 2016; CHEC 2013; De Villiers et al. 2013; Kruss et al. 2012; Letseka et al. 2010; Moleke 2010). These studies have gone some way towards understanding the issues impacting on the success of different programmes. However, the lack of centralised data on the labour market outcomes of workplace-based learning (WPBL) has been a critical factor limiting confident conclusions on their success and efficiency.

There is currently a huge amount of data within the WPBL system, but very little of this data exists in a central location and the numerous pockets of data are not captured on a single standardised system, although attempts have been made to do this. The data that is currently available needs to be strengthened and expanded. Most of this data comes from either small, dedicated graduate-destination studies, which are not nationally representative, or larger surveys (QLFS and SASAS[12]) of the labour market, which do not have a focus on WPBL participants. In this report, we have illustrated the types of insights possible through the use of a methodology and design previously employed to measure the impact of two key WPBL programmes. We have also supplied

the tools (see Wildschut et al. 2012) and design (see Appendix 2) that could serve as templates for the construction of national tools to improve our ability to assess the impact of education and training and labour market outcomes of WPBL programmes.

A key question that remained in this project was whether such a methodology could be extended to a broader range of workplace-based learning programmes.

To answer this question, we need to consider the following:

- **Length of the programme:** It is very difficult to credibly assign a particular labour market outcome to participation in an internship or a skills programme, because these might be very short-term. Variables other than participation in the programme might have been more predictive of the labour market outcome. In longer/full education and training programmes, such as learnerships and apprenticeships, it is considered more reasonable to expect participation in the programme to have played a predictive role in the eventual labour market outcome.

- **Focus/purpose of the programme:** Here, one needs to consider the comparability within the range of WPBL programmes. For example, in what circumstance is it reasonable to compare outcomes of a learnership with those of an internship? Both are categorised as a form of WPBL, but a learnership is a full education and training programme, whereas it can be argued that an internship can merely be a mechanism to more effectively support transition into the labour market.

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12 2016 South African Social Attitudes Survey of the Human Sciences Research Council (HSRC).

- **Ensuring consent:** The present report has highlighted the consent issue as a possible stumbling block in the institutionalisation of tracer studies across the system. This is an issue that might be facilitated by the coordination of consent for tracer studies across the PSET system. Although the Protection of Personal Information (PoPI) Act does give the individual rights over his/her personal information, the same Act does indicate that, if the use of personal information is for the greater good of a country (such as is the case with regard to skills planning and tracer-based impact studies), then such information may be approved for use by the PoPI Act Regulator. The Department of Higher Education and Training (DHET) may therefore need to consider such an approach to the Regulator.

- **Ensuring employer buy-in:** Institutionalisation would need to ensure that employers see the value of tracer studies as well. This would greatly assist tracers entering the workplace.

- **Improving data consistency:** As the present report notes, there have been numerous improvements since 2009/10, and it would therefore be important to continue with the strengthening of administrative data gathering and maintenance.

We are of the view that tracer studies will become increasingly important as sector education and training authorities (SETAs) and the DHET are required to engage with critical questions of impact. The evidence base has to become more sophisticated, but also more coherent and centralised. However, as we have illustrated in the different sections of this report, the appropriateness of tracer studies as a methodology for measuring the impact of a particular programme is influenced by issues such as programme length, programme

focus, and the impact of other influencing factors. The question is thus not whether it would be appropriate to extend the approach to a bigger range of WPBL programmes, but how to institutionalise such studies in the PSET system, thereby enabling an assessment of whether an individual who ends up in employment or unemployment has participated in a WPBL programme at some point in their lives. This would allow an analysis that could lift out which forms of participation or other variables might be more predictive of eventual labour market outcome.

More accurate categorisation of the types of internships available and better capturing of this information in the future might allow one to focus on the impact of particular types of WPBL programmes. A starting point here is the need for a very clear definition of all WPBL programmes, including all different types of internships. This has been attempted in Government Gazette 40730, dated 29 March 2017, issued by the Minister of Higher Education and Training, and this policy initiative could be further strengthened by including in this regulation the need for institutionalised, system tracer studies across PSET institutions.

Therefore, at this point, we would argue that employing a tracer-study methodology to assess the impact of internships would only be appropriate when part of a more systemic and comprehensive assessment of individual trajectories through the PSET system. This will enable a more credible assessment of the contributory role that participation in a particular programme might play in determining an individual's successful transition into the labour market. A more systemic and comprehensive assessment of individual trajectories through the PSET system could also, in time, allow for a simplification of the WPBL system if it is empirically proven that a particular type of WPBL programme has a higher impact on the socio-economic status of citizens than another type of WPBL programme.

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APPENDIX 1

Summary tables in respect of learnership, apprenticeship and internship registration and completion 2014/15

Table A1: Apprenticeship registration and completion by race and gender – 2014/15

	Registration				Completed			
	Female	Male	Undefined	Total	Female	Male	Undefined	Total
Black	5 865	12 313	3	18 181	1 508	6 763	0	8 271
White	104	2 234	0	2 338	265	2 093	0	2 358
Undefined	143	155	253	551	0	3	0	3
Total	**6 112**	**14 702**	256	**21 070**	**1 773**	**8 859**	0	**10 632**

Table A2: Apprenticeship registration and completion by age – 2014/15

Age	Registration	%	Completed	%
16–25	9 119	43.3	2 072	19.5
26–35	9 512	45.1	6 040	56.8
36–45	1 703	8.1	1 429	13.4
46–55	409	1.9	412	3.9
56–65	97	0.5	85	0.8
66 and older	4	0.0	5	0.0
Undefined	226	1.1	589	5.5
Total	**21 070**	100.0	**10 632**	100.0

Table A3: Apprenticeship registration and completion by SETA – 2014/15

SETA	Registration	Completed
AGRISETA	263	118
CATHSETA	362	200
CETA	5 855	108
CHIETA	1 703	1 196
EWSETA	219	276
FOODBEV	82	33
FP&M	265	21
HWSETA	36	0
LGSETA	802	383
MERSETA	6 027	5 521
MQA	1 407	1 267
PSETA	46	0
SASSETA	469	110
SSETA	1 055	620
TETA	1 916	567
W&R SETA	563	212
Total	**21 070**	**10 632**

Table A4: Apprenticeship registration and completion by province – 2014/15

Province	Registration	Completed
EC	926	268
FS	1 300	301
GTN	4 540	2 394
KZN	3 558	1 134
LIMP	1 723	397
MPUM	1 950	640
NC	389	91
NW	895	295
WC	1 935	807
Undefined	3 854	4 305
Total	21 070	10 632

Table A5: Apprenticeship employment status at registration and completion, by SETA – 2014/15

SETA	Registration					Completed				
	Employed	Unemployed	Undefined	Student	Total	Employed	Unemployed	Undefined	Student	Total
AGRISETA	146	117	0	0	263	62	56	0	0	118
CATHSETA	46	266	50	0	362	126	74	0	0	200
CETA	442	2 588	2 825	0	5 855	0	41	67	0	108
CHIETA	545	1 156	2	0	1 703	405	789	2	0	1196
EWSETA	0	219	0	0	219	87	189	0	0	276
FOODBEV	2	80	0	0	82	6	27	0	0	33
FP&M	0	170	21	0	191	12	0	9	0	21
HWSETA	74	36	0	0	110	0	0	0	0	0
LGSETA	16	786	0	0	802	57	326	0	0	383
MERSETA	2 123	3 904	0	0	6 027	3 240	2 281	0	0	5 521
MQA	291	934	182	0	1 407	303	692	236	36	1 267
PSETA	0	46	0	0	46	0	0	0	0	0
SASSETA	0	469	0	0	469	0	110	0	0	110
SSETA	394	661	0	0	1 055	591	29	0	0	620
TETA	123	1 748	45	0	1 916	48	496	23	0	567
W&R SETA	354	209	0	0	563	90	122	0	0	212
Total	**13 389**	**4 556**	**3 125**	0	**21 070**	**5 027**	**5 232**	337	36	**10 632**

Table A6: Apprenticeship employment status at registration and completion, by province – 2014/15

Province	Registration				Completed				
	Employed	Unemployed	Undefined	Total	Employed	Unemployed	Undefined	Student	Total
EC	204	503	219	926	182	86	0	0	268
FS	144	904	252	1 300	152	143	6	0	301
GTN	1 273	3 141	126	4 540	1 082	1 284	26	2	2 394
KZN	426	2 330	802	3 558	501	630	3	0	1 134
LIMP	189	955	579	1 723	182	181	32	2	397
MPUM	478	1 436	36	1 950	337	295	8	0	640
NC	46	191	152	389	42	32	4	13	91
NW	179	474	242	895	114	155	23	3	295
WC	447	1 269	219	1 935	394	402	10	1	807
UNDEFINED	1 170	2 186	498	3 854	2 041	2 024	225	15	4 305
Total	**4 556**	**13 389**	**3 125**	**21 070**	**5 027**	**5 232**	**339**	**36**	**10 632**

Table A7: Apprenticeship registration and completion of top five trades by race – 2014/15

	Registration				Completed		
Trade	B	W	Undefined	Trade	B	W	Undefined
Electrician	3 647	478	236	Electrician	1 721	391	0
Plumbing	1 379	34	2	Fitter	987	154	0
Fitter	1 249	108	1	Welder	691	44	0
Boilermaking	1 032	71	1	Diesel mechanic	527	286	0
Welding	1 164	32	0	Rigger	734	37	0

Table A8: Apprenticeship registration and completion of top five trades by gender – 2014/15

	Registration				Completed		
Trade	F	M	Undefined	Trade	F	M	Undefined
Electrician	1 259	2 870	23	Electrician	422	1 690	0
Plumbing	687	728	0	Fitter	127	1 014	0
Fitter	202	1 156	0	Welder	139	896	0
Boilermaking	169	934	1	Diesel mechanic	40	773	0
Welding	308	888	0	Rigger	35	736	0

Table A9: Internship registration and completion of top five trades by province – 2014/15

	Registration					Completed				
Province	Electrician	Plumbing	Fitter	Boilermaking	Welder	Electrician	Fitter	Welder	Diesel mechanic	Rigger
EC	223	142	8	5	20	59	14	9	19	6
FS	171	188	38	20	129	61	25	21	43	8
GTN	1 224	156	252	242	310	447	186	128	127	44
KZN	807	294	244	96	143	281	193	115	38	14
LIMP	254	300	46	55	47	108	30	17	37	39
MPUM	479	6	356	261	81	142	97	24	34	106
NC	39	19	15	3	23	21	14	10	9	2
NW	250	66	47	70	51	70	43	21	18	4
WC	415	126	82	55	185	102	87	75	63	28
Undefined	499	118	270	297	207	821	452	315	425	520
Total	4 361	1 415	1 358	1 104	1 196	2 112	1 141	735	813	771

Table A10: Internship registration and completion by province – 2009/10 and 2014/15

Province	Registration 2009/10	Completed 2009/10	Registration 2014/15	Completed 2014/15
EC	330	198	1 382	266
FS	37	192	455	124
GTN	1 450	398	4 435	979
KZN	286	98	1 726	408
LIMP	61	58	1 080	561
MPUM	230	57	406	173
NC	50	3	60	7
NW	40	21	452	103
WC	156	64	1 220	373
Undefined	38	63	154	151
Total	2 678	1 152	11 370	2 994

Table A11: Internship registration and completion by race and gender – 2009/10

	Registration				Completed			
	Female	Male	Undefined	Total	Female	Male	Undefined	Total
Black	1 481	1 010	0	2 491	605	481	2	1 088
White	85	96	0	181	35	28	0	63
Undefined	0	1	5	6	1	0	0	1
Total	**2 678**	**1 107**	5	**2 678**	641	509	2	**1 152**

Table A12: Internship registration and completion by race and gender – 2014/15

	Registration				Completed			
	Female	Male	Undefined	Total	Female	Male	Undefined	Total
Black	6 160	4 636	229	1 1025	1 804	1 170	0	2 974
White	113	109	4	226	27	38	0	65
Undefined	41	77	1	119	0	0	106	106
Total	**6 314**	**4 822**	234	**1 1370**	**1 831**	**1 208**	106	**3 145**

Table A13: Internship registration and completion by age – 2009/10 and 2014/15

	2009/10				2014/15			
Age	Reg	%	Comp	%	Reg	%	Comp	%
1–15	0	0	0	0	1	0.0	0	0
16–25	18	0.7	0	0	6 920	60.9	1 757	55.9
26–35	2 196	82.0	900	78.1	3 628	31.9	1 193	37.9
36–45	231	8.6	148	12.8	220	1.9	63	2.0
46–55	42	1.6	34	3.0	31	0.3	9	0.3
56–65	14	0.5	5	0.4	4	0.0	3	0.1
66 and older	6	0.2	0	0	1	0.0	0	0
Undefined	171	6.4	65	5.6	565	5.0	120	3.8
Total	**2 678**	100	**1 152**	100	**11 370**	100	**3 145**	100

Table A14: Internship registration and completion by SETA – 2009/10 and 2014/15

SETA	2009/10		2014/15	
	Registration	Completed	Registration	Completed
AGRISETA	391	155	136	94
BANKSETA	0	0	104	10
CATHSETA	0	0	162	62
CETA	52	2	737	48
CHIETA	9	9	570	250
ETDFPSETA	0	0	1 119	27
ETDP	104	182	0	0
EWSETA	0	0	312	0
FASSET	0	0	1 197	506
FOODBEV	199	220	281	162
FP&M	0	0	257	125
HWSETA	38	72	182	586
INSETA	16	23	843	0
ISSET	615	201	0	0
LGSETA	35	0	349	0
MAPP	154	22	0	0
MERSETA	264	114	227	125
MICT	0	0	2 190	332
MQA	0	0	670	111
PSETA	66	145	1 252	598
SASSETA	219	0	55	0
SSETA	445	0	295	0
TETA	5	7	97	109
THETA	66	0	0	0
W&R SETA	0	0	334	0
Total	**2 678**	**1 152**	**11 370**	**3 145**

Table A15: Internship registration and completion by NQF level – 2009/10 and 2014/15

NQF Level	2009/10		2014/15	
	Registration	Completed	Registration	Completed
1	0	0	3	10
2	19	0	26	52
3	3	0	222	12
4	187	23	426	191
5	730	255	2 277	281
6	248	450	3 632	1 433
7	28	46	1 025	923
8	0	0	49	8
9	0	0	4	0
Undefined	1 463	378	3 706	235
Total	2 678	**1 152**	11 370	**3 145**

Table A16: Learnership registration and completion by race and gender – 2014/15

	Registration				Completed			
	Female	Male	Undefined	Total	Female	Male	Undefined	Total
Black	39 637	32 234	1 066	72 937	1 856	17 477	698	36 331
White	1 953	2 087	17	4 057	1 394	2 446	1	3 841
Undefined	31	25	7	64	24	24	308	356
Total	**41 621**	**34 346**	**1 091**	**77 058**	**19 574**	**19 947**	**1 007**	**40 528**

Table A17: Learnership registration and completion by SETA – 2014/15

SETA	Registration	Completed
AGRISETA	2 399	2 110
BANKSETA	1 388	1 352
CATHSETA	3 411	879
CETA	7 360	2 136
CHIETA	3 781	3 476
ETDFPSETA	1 481	212
EWSETA	2 620	2 077
FASSET	3 673	3 914
FOODBEV	2 401	703
FP&M	2 750	1 105
HWSETA	5 283	4 595
INSETA	3 092	83
LGSETA	5 229	826
MERSETA	6 004	3 336
MICT	4 034	2 006
MQA	1 383	2 827
PSETA	396	132
SASSETA	3 247	1 870
SSETA	3 730	2 111
TETA	3 762	586
W&R SETA	9 634	4 192
Total	**77 058**	**40 528**

Table A18: Learnership registration and completion by province – 2014/15

Province	Registration	Completed
EC	5 462	1 885
FS	4 969	1 958
GTN	23 710	14 128
KZN	14 038	5 263
LIMP	5 715	3 099
MPUM	5 117	3 846
NC	1 756	712
NW	4 333	2 389
WC	9 394	5 095
Undefined	2 564	2 153
Total	**77 058**	**40 528**

APPENDIX 2

The CATI tool and survey administration

The computer-assisted telephonic interview (CATI) methodology centres on a highly focused and relatively short interview that is intended to last not more than 10 to 15 minutes. It relies on the design of an electronic questionnaire in MS Access and can be used by interviewers to record responses as they speak to each interviewee, with data automatically being captured on an Excel sheet. The successful implementation of the CATI methodology depends on three aspects: a large sample with good contact details, a focused instrument, and well-trained interviewers.

The instrument was designed with reference to the conceptual framework discussed earlier in the report. The instruments employed in the Australian longitudinal surveys of the youth (ACER 2010) provided useful ideas for formulating questions and structuring items. The draft instruments were each refined during a piloting process. The full questionnaire instruments can be found in Wildschut et al. (2012).

To obtain a large and representative sample requires reliable telephone contact details and names of possible respondents. Data sets in respect of the telephone and email contact details, as well as the demographic details of the total population of learnership and apprenticeship participants, were obtained from each participating sector education and training authority (SETA).[1] Training of telephonic interviewers who would work from a call-centre setting, was critical. Such training was supported by a detailed

training manual, a two-day training workshop, and telephonic assistance during survey administration. The training sessions aimed to accomplish three goals, namely: to provide interviewers with the background to the study and explain important key concepts; to familiarise and train them with regard to the use of the CATI tool; and to provide practical, hands-on training through role play and dummy calls. All interviewers received a training manual to assist them in their task on an ongoing basis.

To increase the reliability and validity of the data, weekly monitoring was undertaken to ensure accuracy and to identify any data-quality problems quickly. The monitoring process included weekly reports from the call centre on progress made as well as the submission of the data gathered during that week. The data-gathering phase stretched over a total of almost four months. The process of data collection was staggered: first the learnership survey was conducted, and then the apprenticeship survey was rolled out separately.

Instrument design and logic in respect of apprenticeships

Vickerstaff (2003: 270) identified two key aspects of international research into the apprenticeship experience, namely: how learners '[come] to be doing apprenticeships in their particular trades; and the degree to which the apprenticeship [represents] an easy and smooth transition into the world of work'. Research emphasises the importance of investigating the entry into, and the exit from, an apprenticeship, and, in the present survey, we also investigate the 'contemporary characteristics of apprentices[hip] patterns of participation' (Fuller & Unwin 2003: 5). Based on this review of the literature, as well as an analysis

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1   The SETAs participating in both the learnership and apprenticeship surveys are listed in the sample-selection sections.

of the size and shape of the apprenticeship population, the present survey aimed to identify patterns of individual trajectories and transitions: firstly, into the system, and, secondly, out of the apprenticeship system into the labour market.

A limited number of theoretically possible trajectories were identified in order to frame the survey instrument. There were two levels of differentiation in terms of entry into an apprenticeship programme. Firstly, an individual may have entered the apprenticeship programme as unemployed (18.1) or employed (18.2). Secondly, in terms of the apprenticeship route to certification, an individual could be classified as either involved in a section 13 or a section 28 apprenticeship programme.

In terms of completion status, individuals could still be in the process of completing the apprenticeship qualification, or could have completed the apprenticeship qualification, or could have ceased training without completing the apprenticeship qualification. Once the apprenticeship has been completed or terminated, an individual may have found employment, or may have gone on to further study and training, or may have remained unemployed. There may be complex combinations of these outcomes in an individual's life. The job may be stable and lead the individual on an occupational path, or the individual may go from one short-term or casual job to another in succession.

Our analysis considered how groups of young people, distinguished by race, gender, social class or location, could have different trajectories through the apprenticeship-pathway system. We were interested in analysing, for instance, if there were different outcomes and transitions for individuals depending on their socio-economic status, or whether they entered as employed or unemployed, or whether they were training for an occupation in a specific industrial sector. For example, if someone entered an apprenticeship as an unemployed motor mechanic, would it make a difference whether they completed the apprenticeship qualification, or would they find stable employment even if they terminated their apprenticeship? To take a second example, we were interested to know if the traditional route of young school leavers entering an apprenticeship straight from school in order to prepare for the labour market prevails, or whether there were more complex trajectories from employment or unemployment before entry into an apprenticeship programme.

To accomplish these goals, the survey instrument had nine sections. Below is an explanation of the variables included and measured in each section of the questionnaire (see Wildschut et al. 2012), followed by a screenshot of how this translates to the CATI tool in MS Access:

- **Section 1 – confirmation of details:** This section confirmed the identity of the individual and the particulars of the apprenticeship programme.

Screenshot 5

- **Section 2 – trajectory into the apprenticeship:** This section established how the individual came to enter the apprenticeship and provided a set of possible transitions after leaving school. The person could have (1) entered the apprenticeship programme immediately; or (2) worked; or (3) been unemployed for a period; or (4) proceeded to study, more than likely in a private college or further education and training (FET) college; or (5) worked and studied part-time. The sequence can repeat multiple times. Once an individual's trajectory was traced to the point of entry or transition into the apprenticeship, this section established the labour market status of the individual, 18(1) or 18(2), and streamed them to a relevant set of questions.

Screenshot 6

- **Section 3 – labour market status at entry:** For each stream, the nature of the status at entry was established along a set of appropriate indicators. For those who were working, we ascertained the stability and security of employment: their occupation, weekly working hours, average monthly salary, employer/nature of firm/sector, occupational category, company size, sector, relationship to specific apprenticeship qualification, tenure, and job security. For those who were not working, we ascertained how their time was spent and their sources of support.

Screenshot 7

- **Section 4 – apprenticeship information:** This section assessed information on the apprenticeship qualification – the category of apprenticeship, the type of institution offering the formal component, and the reasons for entering the apprenticeship.

Screenshot 8

- **Section 5 – perceptions regarding skills and competencies imparted; and Section 6 – taking the trade test:** This section assessed the respondents' perceptions regarding the competencies and skills acquired, or not acquired, through the apprenticeship. Based on the category of apprenticeship and whether they had completed the qualification, respondents were filtered to the relevant section for one of six options. A person could be: Section 28: Completed; Section 28: Still pursuing; Section 28: Left without completing; Section 13: Completed; Section 13: Still pursuing; Section 13: Left without completing. Also, in this section, questions were posed in relation to the trade test, based on the type of apprenticeship and the completion status of the individual.

Screenshot 9

Screenshot 100

- **Section 7 – trajectory after the apprenticeship:** This section asked the person to describe their activities in the years since completing or leaving the apprenticeship programme. It started off by setting the baseline year in which the individual completed or left the apprenticeship. It then asked about the first transition outcome after completing (or leaving) the apprenticeship programme, in terms of the four possible outcomes: (1) working, (2) studying, (3) working and studying, and (4) unemployed.

Screenshot 11

- **Section 8 – status after apprenticeship:** This section asked a set of questions on the nature of the labour market experience, but applied only to those individuals who had completed or had stopped the apprenticeship without completing. If the person was working, it assessed the following: occupation, weekly working hours, average monthly salary, employer/nature of firm/sector, occupational category, company size, sector, relationship to specific apprenticeship qualification, tenure, and job security. If the person was studying, it assessed whether there had been progression: name of the course, full-time or part-time, the nature of the institution, National Qualifications Framework (NQF) level of studies, length of the course, year of enrolment, sources of course payment, sources of living expenses, and reasons for further study. If the person was working and studying at the same time, it assessed all of the above dimensions. If the person was not working, it assessed how their time was spent, their sources of support, activities undertaken to find employment, problems in finding employment, and plans for the next few months.

Screenshot 12

Screenshot 13

Screenshot 14

- **Section 9 – personal information:** In this section, where previously available, personal information was confirmed, and also assessed where not previously available. The following were confirmed/assessed: race, gender, date of birth, national ID, disability status, where the individual grew up, where the individual registered for the apprenticeship, where currently living (which allowed us to assess migration patterns), their socio-economic status, type of dwelling/house where currently living, their parental education, their own highest qualification currently, their marital status, and their dependants.

Screenshot 15

Instrument design and logic in respect of learnerships

Learnerships were introduced in South Africa as part of a new skills development dispensation that was intended to address the limitations of the traditional apprenticeship system. A learnership is a work-based learning programme that leads to a nationally recognised qualification directly related to an occupation, for example accountant, construction worker, health-care worker, information technology (IT) technician, motor mechanic or community carer. The learnership pathway system is comprehensive – it includes qualifications at the basic skills (NQF Levels 1–3), intermediate skills (NQF Level 4) and high skills (NQF Levels 5– 8) levels, and it aims to enhance skills upgrading for the employed (18.1 learners) as well as provide vocational education and training for the young unemployed (18.2 learners). The goal is to provide a recognised occupational qualification achieved through structured institutional learning and applied competence developed through workplace experiential learning. Learners have to attend classes at a college or training centre in order to complete the classroom-based learning, and they also have to complete on-the-job training in a workplace, which could be a firm, government department or small business.

In 2007, the Human Sciences Research Council (HSRC) conducted a baseline study of the learnership population as well as a survey of learnership participants. In the first year of the National Skills Development Strategy II (NSDSII), 2005/6, a total of 53 644 learnership registrations and a total headcount of 52 864 learners were recorded. Those who registered for learnerships in Year 1 were predominately black – with the majority being men – and mainly young adults (with an average age of 27). The majority of qualifications were registered at NQF Level 4, with the largest sectors related to the Safety and Security Sector Education and Training Authority (SASSETA), the Construction Education and Training Authority (CETA) and the Manufacturing, Engineering

and Related Services Education and Training Authority (MerSETA).

A survey of this Year 1 learnership population yielded a sample of approximately 7 000 participants. A strong trend identified was that, increasingly over time, a larger proportion of the learnership system catered for the 'young' new entrants to the labour market. Many of those were school leavers who already had a NQF Level 4 qualification in the form of matriculation, but who were prepared to seek vocational certification at lower NQF levels in order to enhance their employability (Visser & Kruss, 2009). Racially differentiated patterns of enrolment for, and completion of, programmes were evident at the basic, intermediate and high skills level, as well as racialised patterns of participation in distinct economic sectors. Qualitative data gathered through interviews showed that progress through and out of the system was not automatic nor linear, and, for some individuals, particularly at the lower NQF levels, their skills development trajectory followed a 'zigzag' trajectory, that is from periods of training to unemployment, then back to training, then on to work, then back to unemployment, and so on.

The logic of the instrument was the same as that for the apprenticeship survey, but the range of possible transitions specific to the learnership pathway system informed the detailed design, and the focus of the instrument was more strongly on outcomes after completion of the qualification. Learners may have entered the learnership programme as an unemployed 18(2) learner, or as an employed 18(1) learner. Then, they may have completed the learnership qualification, or they may have terminated it (dropped out) without completing it, or they may have been registered for a number of years. Once they had completed or dropped out, they may have found a job, or gone on to further study or training, or experienced an extended period of unemployment. In order to record individual trajectories, the instrument consisted of four sections:

- **Section 1 – an introduction:** This section confirmed the identity of the learner and the learnership programme, the status of the learner at the time of the previous survey in 2007, and whether they had completed a learnership since that date. It then established the person's current labour market status: working, working and studying, studying and not working, not working or studying. The person was then streamed to one of four tabs that explored each of these options further. The same core set of items was packaged as appropriate for each labour market and educational outcome.

Screenshot 16

- **Section 2 – current labour market and educational outcomes**: For each tab, the nature of the current outcome was established along a set of indicators (nature of work, nature of studying, nature of working and studying, nature of not working). Each set of outcomes then had a section that focused on the skills outcomes of the learnership, and the opportunity to use or not use these skills, as the case might be.

Screenshot 17

- **Section 3 – transition dynamics:** This section asked the person to think back in order to describe their activities in the years since the learnership programme. It started off by setting a baseline year, that is, when the learnership was completed. It then asked about the first transition outcome after completing (or leaving) the learnership programme, in terms of the same four outcomes (worked, worked and studied, studied, unemployed). Those who had had relatively stable individual 'navigations' or 'trajectories' would have fewer shifts between unemployment and the labour market or further education and training; conversely, there were those who would have complex, multiple navigations backwards and forwards.

Screenshot 18

Screenshot 19

Screenshot 20

Screenshot 21

Screenshot 22

Screenshot 23

Screenshot 24

- **Section 4 – personal information or transitions in other domains:** The 2007 learnership survey had limited personal information, which was confirmed in the present survey. We also gathered more in-depth and extensive personal information.

Screenshot 25

APPENDIX 3

The new NQF

The National Qualifications Framework (NQF) Act 67 of 2008 replaced the South African Qualifications Authority (SAQA) Act 58 of 1995 and came into effect on 1 June 2009. The NQF Act changed the NQF from an eight-level framework to a ten-level framework. It is SAQA's responsibility to effect the changes to current qualifications. SAQA subsequently adopted a seven-phase implementation plan for processing the migration of approximately 10 000 qualifications to the appropriate level, a process which is still currently in progress.

Table A19: Illustration of the migration of qualifications from the old NQF to the new NQF

Level	Old NQF	New NQF
10		Doctoral degree
9		Master's degree
8	Master's degree/Doctoral degree	Honours degree
7	Honours degree	Bachelor's degree/Advanced diploma
6	Bachelor's degree/Advanced diploma	Advanced certificate/National diploma
5	National certificate/National diploma	Higher certificate
4	Grade 12/NSC	Grade 12/NSC
3	Grade 11	Grade 11
2	Grade 10	Grade 10
1	Grade 9	Grade 9

Source: FASSET (2013)

LABOUR MARKET
INTELLIGENCE PARTNERSHIP

Institutionalising Tracer Studies to Assess the Impact of Workplace-based Training: Reflections on Feasibility

The expansion and capacitation of workplace based learning (WPBL) programmes, such as internships, apprenticeships, learnerships and skills programmes, have clear advantages in a society where a large proportion are unemployed youth with less than a matric. The formal labour market often attributes mismatches between labour market demand and skills supply to a lack of work experience. However, we know very little about whether the current system in South Africa is functioning as expected. Reflecting on a methodology previously employed to measure the impact of learnerships and apprenticeships, as well as additional analysis of the size and nature of participation in internships. This report finds that different forms of WPBL offer valuable pathways to skilling and employment and thus policy focus should be deepened and extended. The report also argues that it will become increasingly important for DHET to institutionalise tracer type surveys across the PSET system at a nationally centralized level, to allow for more comprehensive and valid assessments of the impact of education and training on labour market outcomes.

About the LMIP

The Labour Market Intelligence Partnership (LMIP) is a collaboration between the Department of Higher Education and Training, and a Human Sciences Research Council-led national research consortium. It aims to provide research to support the development of a credible institutional mechanism for skills planning in South Africa. For further information and resources on skills planning and the South African post-school sector and labour market, visit http://www.lmip.org.za.

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