

# Traffic Jams or Trees?

How are South African Youth Progressing through the Post-School Sector?  
And what Lessons can we Learn from Current Studies?

Fiona Lewis

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LABOUR MARKET  
INTELLIGENCE PARTNERSHIP

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## Preface

One of the gravest economic challenges facing South Africa is high unemployment, but at the same time, a skills mismatch. The market demand for skilled labour is greater than the number of individuals completing post-school education and training. Prospective employers often complain that the education system does not give individuals the necessary skills to be productive in the workplace, or to start their own enterprises.

Government acknowledges that the unemployment crisis is a systematic problem and cannot be addressed by ad hoc interventions scattered across line departments. With this 'big picture' thinking in mind, DHET aims to create broad and equitable access to a full spectrum of post-school opportunities and lifelong learning encompassing adult education and training, workplace training, the FET college system, artisan and technical training, higher education and innovation.

DHET's ability to create these learning opportunities requires a network of partners to gather and maintain a labour market intelligence system. Such a system can provide analytical insights to support policies and intervention programmes.

In February 2012, therefore, DHET commissioned a HSRC led research consortium to support its capacity to create and maintain a labour market information and intelligence system, guided by the national Delivery Agreement 5. The primary focus is the development of a 'strategic intelligence capability' towards the establishment of 'a credible institutional mechanism for skills planning'. The HSRC coordinated research project is organised in terms of six interlocking research themes, two which focus on labour market information and four which focus on labour market intelligence:

- Theme 1. Establishing a foundation for labour market information systems in South Africa
- Theme 2. Skills forecasting: the supply and demand model (*a WITS EPU project*)
- Theme 3. Studies of selected priority sectors
- Theme 4. Reconfiguring the post-schooling sector
- Theme 5. Pathways through education and training and into the workplace
- Theme 6. Understanding changing artisanal occupational milieus and identities

The consortium made a strategic decision that their research must not duplicate or repeat existing research about the challenges facing South Africa's education and training system and labour markets. Their research must address gaps, promote synergies and explore complementarities.

Hence, as a first step, working papers were commissioned to inform the research agenda for each theme. Although the working papers cover different issues, each has four common dimensions: policy challenges to institutionalise and build a post-school education and training system in South Africa, lessons from seminal national and international research, conceptual frameworks, methodological issues and data challenges raised by this research, and potential research gaps.

One of the HSRC led consortium's goals is to create a living community of practice that researches and debates education, skills and labour market issues. These working papers were presented at a conference in May 2012 to start building such a research network.

The dissemination of these working papers is intended to encourage more individuals to join the research community. We look forward to individuals' comments. They can be emailed to [agoldstuck@hsrc.za.za](mailto:agoldstuck@hsrc.za.za). Welcome to the research community!

Theme 1:	Theme 3:	Theme 4:	Theme 5:	Theme 6:
<b>Establishing a foundation for labour market information system in South Africa</b>	<b>Studies of selected priority sectors</b>	<b>Reconfiguring the post-schooling sector</b>	<b>Pathways through education and training into the workplace</b>	<b>Understanding changing artisanal occupational milieus and identities</b>
<b>Simon McGrath</b> Some international reflections on developing VET indicators	<b>Haroon Bhorat and Morne Oosthuizen</b> Studies of Selected Priority Sectors in the South African Labour Market: A Proposed Research Programme	<b>Andre Kraak</b> Private post-school education in South Africa	<b>Michael Cosser</b> Pathways through education and training and into the labour market	<b>Angelique Wildschut</b> Conceptualising the study of artisans
<b>Phil Toner</b> Establishing a foundation for labour market information systems in South Africa	<b>Peter Jacobs and Tim Hart</b> A critical review of the research on skills development in rural areas	<b>Andre Kraak</b> Differentiation in the post-school sector	<b>Pundy Pillay</b> Pathways through education and training and into the workplace: a concept paper	<b>Jeanne Gamble</b> Models and pathways to institutionalise apprenticeships
<b>Anthony Gewer</b> Developing a framework for institutional planning and monitoring in FET Colleges	<b>Shirin Motala</b> A critical review of research on skills development and labour market demand in the early childhood development sector	<b>Joy Papier et al</b> Contemporary issues in public FET colleges	<b>Sharlene Swartz</b> Navigational capacities for youth employment: A review of research, policies, frameworks and methodologies	
<b>Carmel Marock</b> Developing a framework for understanding SETA performance: Monitoring and evaluating their role in skills planning, steering and enabling a supply within their sector	<b>Thembinkosi Twalo</b> A comparative review of skills development in cooperatives	<b>Veronica McKay</b> A critical review on Adult Basic Education (ABET) in South Africa	<b>Fiona Lewis</b> Traffic jams or trees – how are South African youth progressing through the higher education sector? And what lessons can we learn from current studies?	
<b>Bongiwe Mncwango</b> Towards a demand side firm level survey of labour information in South Africa	<b>Margaret Chitiga and Stewart</b> Development of a national skills forecasting model	<b>Thenjiwe Meyiwa and Nolutho Diko</b> The state of graduate teacher transitions to the labour market	<b>Stephanie Alais</b> Jobs? What jobs? Skills? What skills? An overview of studies examining relationships between education and training and labour markets	

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<b>Michael Cosser and Fabian Arendse</b> Education and labour market indicators	<b>Imraan Valodia</b> Conceptualising skills development in the informal sector	<b>Felix Maringe</b> An overview of studies exploring systemic issues related to the South African post-school sector		
<b>Joan Roodt</b> National database sets and research on labour market demand		<b>Peliwe Lolwana</b> Is post-school education adult education and training? The shape and size of post-school education		
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## EXECUTIVE SUMMARY

Reports, both evidence-based and anecdotal, tell of high numbers of children and young adults not employed, not in education or in training. As reflected in a recent literature review by the DG Murray Trust, “this represents a severe loss of human potential just at the time that young people should be becoming economically active”. While there is a range of stakeholders in South Africa who retain information about how the people of the country are employed (or not), it may be true that this does not provide us with the type of education-employment intelligence that is required for proper planning. Most of the information we have is gained through either cross-sectional studies using data sampled at a point in time, or longitudinal studies tracking limited cohorts of students. However, not enough consolidated information exists to show the extent to which young South Africans are leaving school, entering further or higher education and training institutions, exiting from these institutions with degrees, diplomas and certificates and entering the formal or informal sector workplace.

Enrolment, participation, retention, throughput, completion, and graduation are common indicators used to diagnose the health of an education and training system. While these indicators lead us towards an understanding of the health of the system, employment and ultimately the level of economic activity resulting from that education is the true indicator of impact. But how is this being measured, and what does that measurement tell us? A recent study has determined that of 6.7m young South Africans between the ages of 18 and 24 years, 2.8m are not in employment, education or training (NEET). This represents 41.6% of the total cohort. All of these people are in need of second-chance education. The percentage of successful grade 12 learners enrolling in a public university or university of technology in the year following their matric ranges from 18.5% (2006) to 23.3% (2003). It is reported that only 30% of all first-time entering students (most of whom are in three-year programmes) graduate within a five year period. The number of graduates has increased by 51% from 2000 to 2008, this growing at a slightly faster rate than head count enrolments in the same time.

These school-higher education-work pathways are best documented through longitudinal studies that can more effectively demonstrate the nodes through which young people transition, taking cognisance of the complexity of these various states. However, the complexity in this transition can only be effectively analysed with data sets that enable linkages across the chain, and through the various institutional types (the education system, vocational education and training systems, higher education, the labour market). While not fully comprehensive, some suggestions from the existing research and programmes reviewed in this paper identify a number of gaps. Over and above these gaps, studies on school-to-work transition have disproportionately relied on secondary data sources such as general household surveys (including labour force surveys). Administrative data from different systems can be used to track individuals through education, employment and/or training systems to understand movements in and out of poverty due to changes in education or employment status. Where this administrative data can be triangulated by ‘connecting the dots’ at an individual level, tracking of progress through education and into the world of work (including analysis inter alia, of earnings and occupations) becomes possible.

What is needed is not to replicate previous programmes of research, but to understand how these research programmes can be used to direct new efforts to integrate what is known, where that knowledge is stored, and how data can be intelligently integrated to create relevant knowledge.



## INTRODUCTION

“So, what do you want to be when you grow up?” is a question most young learners all over the world are asked at some point in their school careers. Very few reply “unemployed”. You might hear “astronaut”, “lawyer” and “doctor”. Hopefully, you will also hear “teacher”, “policeman” and “nurse”. In South Africa, our realised truth is often far from these dreams. Reports, both evidence-based and anecdotal, tell of high numbers of children and young adults not employed, not in education or in training. As reflected in a recent literature review by the DG Murray Trust, “this represents a severe loss of human potential just at the time that young people should be becoming economically active”.

Most of what we know tells us that such a loss stems from poor teaching and learning practices at school leading to low quality schooling outcomes, a misarticulation between school and post-school opportunities and a struggle to adapt, adjust and succeed through university. In looking for solutions, government needs to examine various elements of the to-and-through chain. How do these different institutional types perform in respect of building and sustaining human capital? Understanding how different post-secondary education and training systems and institutional types connect young learners to the world of work is critical to informing central government labour planning mechanisms. Demonstrating the relationship between educational qualifications and the employment success of young adults provides a platform for accelerating the expansion of appropriate, fit-for-purpose institutional programmes. While comparative studies from across the globe may use an extensive array of analytical tools, many rely on structured longitudinal cohort studies as the key approach. The value of panel studies of this nature is that they provide an opportunity to differentiate between the outcomes of various educational pathways (e.g. participation levels and employment success) in terms of a range of variables or indicators.

A range of stakeholders in South Africa who retain information about the nature of the education and/or employment status and levels of individuals of working age between 16 and 64 years. Most of this is gained through cross-sectional studies using data sampled at a point in time. However, there is not enough consolidated longitudinal data and analysis that tracks the extent to which young South Africans are leaving school, entering further or higher education and training institutions, exiting from these institutions with degrees, diplomas and certificates and entering the formal or informal sector workplace. So how do we begin to understand whether young people are progressing through these stages, as if in a traffic jam, or if they have branched out into a wide array of different professional pathways, regardless of their level of education? Such a question can only be addressed by looking at each institutional type, the methodologies and strategies for tracking students at this institutional type, and reviewing current research. This will provide a snapshot view of the extent to which universities are generating “high level human resources for a wide range of employment needs” (Badsha and Cloete, 2011).

This concept paper will address the above-mentioned question by first exploring how the transition from education to employment of graduates is measured. It will reflect not only on the findings of a number of recent research reports and projects, but also on the methodologies adopted by such research programmes. In drawing this section of the paper to a close, the analysis will suggest/expose gaps evident from these studies. The tracing of educational pathways from school to employment will be briefly considered, with respect to analytical reports on the state “as is” – before addressing the various institutional types, methodologies and strategies used for tracking students through the pathway. Ultimately, the concept paper needs to address the question of how best to demonstrate and measure the extent to which universities are meeting their stated mandate of enabling employment.

## A CONCEPTUAL FRAMEWORK: TRAFFIC JAMS OR TREES

Hannan, Raffe and Smyth (1996) suggest four general dimensions for conceptual frameworks that attempt to provide an orientation and organising system for analysis of the education-work transition. Firstly, a conceptual framework must illustrate the nature of the education and training system itself (the institutional types) and their interconnectedness with the labour market. Secondly, it needs to be framed within a national context, including the influence and impact of national policies on the model. Thirdly, such a framework needs to address the structure of the school-to-work transition process itself, and finally provide a sense of the anticipated and measurable outcomes of the transition process, particularly with a focus on the variations amongst groups of young people in respect of these outcomes. While this paper will touch on each of these elements, the focus of the next two sections will be the latter two dimensions.

### 1. INTRODUCING THE METAPHOR

While there is much literature in South Africa, and internationally, that demonstrates varied educational pathways from school through university to employment and the outcomes of these transitions, most of this literature and analysis relates either to discussions on the effectiveness of a national qualifications framework in structuring these pathways (Young & Allais, 2011; Raffe, 2012), transitions in subject-specific education (e.g. maths education) (Clark & Lovric, 2008), international cross-country comparatives (van Trier, 2008; ETF, 2008), or the nature of transitions as part of broader policy dialogues (Cosser, 2011; Lolwana, 2010; Usher and Marcucci, 2011). While it is not the purpose of this paper to discuss these in detail, they will be reflected on where relevant.

“at every stage of their progression from school into, through and out of higher education, students make choices to go down particular roads and/or they have their pathways determined for them by a variety of factors ... in reality, all students pathways are shaped by a combination of choices and constraints.”

(Cosser, 2010: 11)

Therefore, it is useful for this conceptual framework to create a structural flow that assists in analysing these pathways. Cloete and Bunting<sup>1</sup> have designed and developed two key diagrammatic charts that provide structure for the quantitative analysis of these flows. These diagrams will be used to introduce the metaphoric concept of traffic jams and trees to represent the movement between and through the two key stages of this transition for South African youth. The first diagram (Figure 1) represents the movement through the further education and training band (FET - grades 10 to 12), and the second diagram (Figure 2) shows the pathways through higher education and into employment. Consistent with the notion of “branching points” (Cosser, 2010), the tree and traffic jam metaphor can be used to represent these nodes and the impacts of these choices and constraints faced by learners and students in their journey through the education and training system.

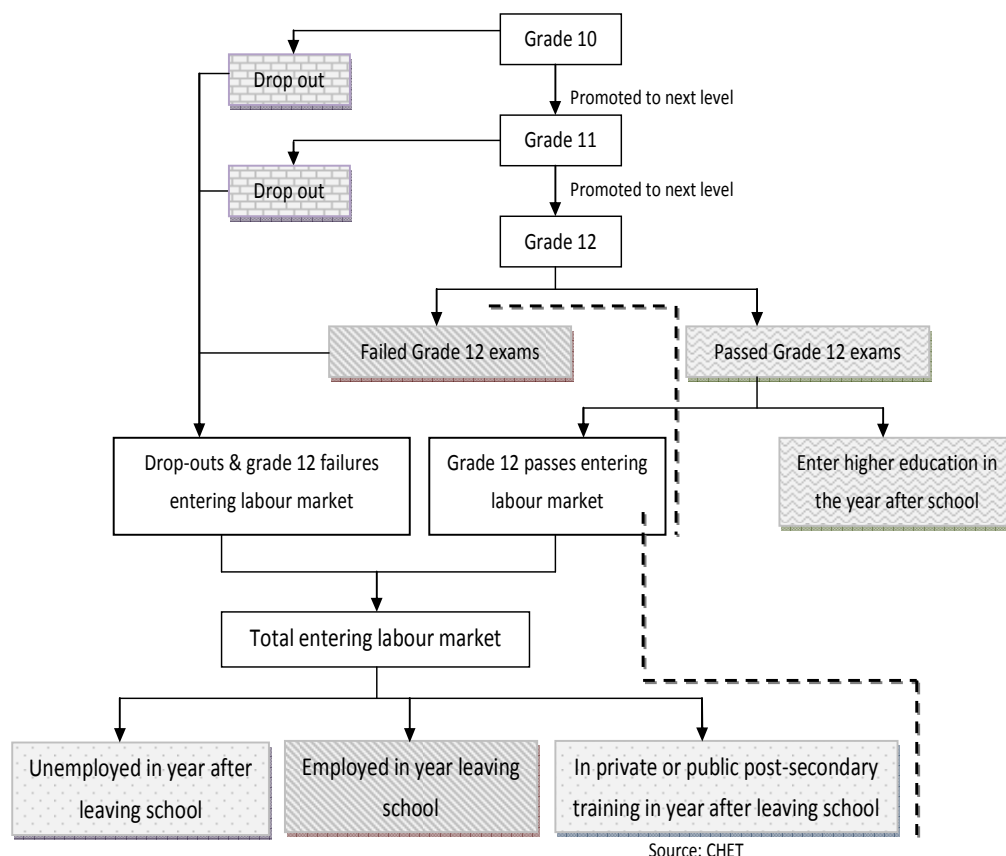
What is the end goal though? Traffic jams or trees? A stop-start-stall-slow progress from school to work (traffic jam), or a healthy-growing, highly branched and differentiated pathway (tree) that creates and builds a strong economy? We have to assume from previous research that there is more public and private benefit when young people progress through the schooling and higher education system and qualify as graduates from that system. Branson, Leibbrandt and Zuze (2009)

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<sup>1</sup> These were provided to the author by Dr Nico Cloete (Centre for Higher Education Transformation) as excel spreadsheets. Acknowledgements are due to both Dr Cloete and Dr Bunting for these diagrams.

assert that there are consistently greater returns to higher education for school-leavers when comparing the earnings received by those employed – not only did graduates earn higher salaries, but they were also more likely to be employed. Also, while reports of graduate unemployment are acknowledged, it is suggested that this is off a low base, and the returns to higher education “remain high relative to matric” (2009: 2). With this understanding, this conceptual framework positions high growth and well differentiated educational pathways as the ultimate end goal of any labour market intelligence programme. The tree is best. Not the traffic jam. How do we then assess where we are currently, what do we know about this position, and what needs to be done to reach this goal?

**Figure 1: Pathways from FET to university or labour market**



**KEY:**

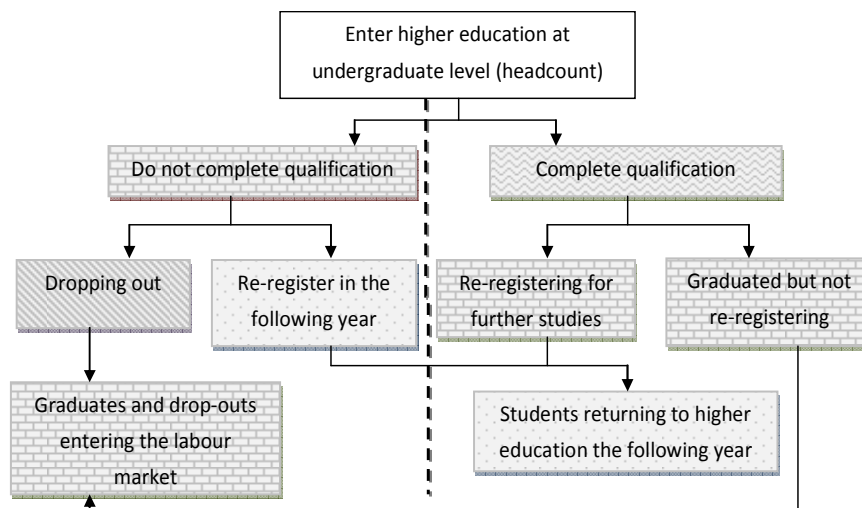
"stop" 
 "stall" 
 "start again" 
 "tree – the growth pathway"

In this first stage of the school-university-employment transition, stop-start progress can be seen as everything to the left of the dashed line in Figure 1 above. If the end goal is graduate employment, the diagram provides a simplified view of young peoples' progress towards this: have they stopped (brick wall), have they stalled (chevron) or are they trying to start-up again (spotted)? By using various data sources (to be discussed later), these various stages can be quantified as indicators of the health of the education and training system.

Moving onto pathways into and through higher education (Figure 2) below, the stop-start-stall pathway is further reflected on the left hand side of the dashed line. The tree pathway is shown on the right hand side of the dashed line in both Figures 1 and 2 (zigzag). This pathway creates multiple opportunities for differentiated career pathways and professional roles and allows for different levels of skills to be produced (first undergraduate degree, honours, masters, doctorates). While not

necessarily the fastest route to employment, it is a more effective path to better employment opportunity.

**Figure 2: Pathways from higher education to employment**



Source: Dr Nico Cloete and Dr Ian Bunting (CHET)

The limitation of this model is that although it has attempted to show the “learning swirl” (Kotamraju, 2007), it remains primarily linear, and as such, does not provide enough opportunity to demonstrate the complexities associated with the constraints and choices faced by young people. For South Africa, notably the financial pressure that young people feel to support extended families and/or being able to enter a higher education or further education and training colleges, even if subsidised, is substantial. What this model does provide for are specific stop-out points, for which precise measures can be constructed to indicate the level and extent of success at each of these points. Using information available for a range of different systems, we can begin to use this model to construct labour market intelligence that can be used effectively in a central (DHET) planning mechanism. It was not within the scope of this paper to undertake such an analysis, but the sections to follow will explore various elements of this model. In future phases of research, up-to-date information can then be integrated into the model to produce the intelligence required.

## 2. UNDERSTANDING THE DYNAMICS OF DIFFERENCE – INFORMATION VS. INTELLIGENCE

Key to the success of any strategy that aims to establish a “credible mechanism for skills planning” (HSRC Labour Market Intelligence project concept note, 2012) is the need to explore and strengthen the labour market information systems available, and from this, provide for effective labour market intelligence. Given that there is a range of information systems that have a view into labour market absorption and employment in South Africa, with such systems being able to provide information about learners, students and graduates exiting from university, it seems logical to assume that a solid base of intelligence on pathways from school to university to the labour market would be available. So, is this the case? And if not, why not?

Exploring the various information systems and sources that are available, and understanding how they have been used so far will be the starting point for addressing these questions. For this framework, the analysis will begin by identifying information systems that contain data about young people at various points in their transition along their educational pathway – that is, data about

young people at school, university and in the labour market. A summary of the key data systems used in both the longitudinal studies and cross-sectional studies profiled later is provided in Tables 1a and 1b. Two different functional types of data are profiled. Administrative data that is aligned to an individual person's progress that though analysis and results can be used at the aggregate and impersonal level. In contrast, Statistics SA surveys represent a different type of sample survey based data set and consequently analysis using such has to take account of the underlying data set construction.

**Table 1a: A comparison of available micro-level data in South Africa: administrative data**

Data set	Managed by	Description and application
HEMIS (Higher Education Management Information Systems)	DHET (Dept of Higher Education and Training)	HEMIS is the national data set collected by each of the HE institutions and submitted to the DHET on student enrolments, staff, facilities <i>etc.</i> It holds student level record data on enrolment, courses, success, and graduation by field of study. Useful for longitudinal studies.
LURITS (Learner Unit Record Information Tracking System) <sup>2</sup>	DBE (Department of Basic Education)	Holds learner level information – will hold over 12m records for each academic year. By the end of 2009, 42% of all learner records were tracked through LURITS. Current state not known. Useful for longitudinal studies.
Student loans awarded	NSFAS (National Student Financial Aid Scheme)	Holds debtor level detail on each student funded, per year, per loan. By university and key field of study. Also contains data on exit and graduation (as provided by universities). Contains employment data for those who have exited and are formally employed (for whom there are PAYE records). Useful for longitudinal studies.
PAYE database of income earners and/or provisional tax-payers	South African Revenue Services (SARS)	Contains individual tax-payer data on employment status (in terms of occupation, period of employment, salary). Useful for longitudinal & cross-sectional study.
Unemployment - UIF	Department of Labour	Contains individual data on those claiming unemployment – biographical level data.
SASAMS (South African School Administration and Management System)	Provincial education departments	Interfaces with LURITS and is used at school level.
FETMIS (Further Education and Training Management Information System)	Department of Higher Education and Training	Contains student level data at each of the public FET colleges – enrolment, academic progress and status (exit, graduate).
Student data	Institution information systems	Over and above the information provided to HEMIS, institutions hold further student level data (including information on alumni).
NLRD (National Learner Record Database)	SAQA (South African Qualifications Authority)	The records of learners who achieve the outcomes of unit standards or qualifications registered on the NQF and their achievements.
Private post-school and training	Sector Education and Training Authorities (SETAs)  DHET	Current enrolment data including information about individual level enrolments in different institutions and programmes types (figure 1 in Blom, 2011 provides an excellent overview of various data sources in this sector).

<sup>2</sup>“ LURITS solves the problem of duplicate learners in the system. LURITS tracks learners who move from one school to another. LURITS tracks learners who drop out of school. What this means is that for the first time we will have accurate learner enrolment data” (Pandor, 2008).

**Table 1b – A comparison of Statistics SA micro-level survey data**

QLFS (Quarterly Labour Force Survey)	A household-based sample survey which collects data on the labour market activities of individuals aged 15 years and above who live in South Africa. However, this report only covers labour market activities of persons aged 15 to 64 years. Cross-sectional studies. Survey.
GHS (General Household Survey)	GHS is a household survey executed annually that covers six broad areas, namely: education, health and social development, housing, household access to services and facilities, food security and agriculture. Contains demographic and biographical information per household surveyed. Economic information also completed. Cross-sectional studies. Survey.
Community Household Survey	The largest survey to be conducted by Stats SA. The survey collected information on population dynamics (population size, composition and distribution; and fertility, mortality and migration), disability and social grants, school attendance and educational attainment, labour force and income.

While each of these datasets independently holds valuable information, Van der Merwe (2011: 53) writes that “predicting the success of a student under a described set of circumstances requires embarking on a statistical exercise, which, if handled with scientific rigour, can anticipate certain results or outcomes”. However, she acknowledges that the true value of institution-held information about students can only be fully unlocked through coherent, integrated management and analysis of the information. She therefore recommends the development of ‘aggregated dashboards’, dashboards which use summed data tables from different sources to provide an overview of the system as a whole. In the university space, such aggregated dashboards have application in a range of programmes: the widening participation agenda (Cuthill & Schmidt, 2011); understanding student retention and predicting student success (van der Merwe, 2011); the size and shape of the private post-school sector (Blom, 2011) and determining and reporting on university performance indicators (Cloete, 2010).

### **3. POSITIONING UNIVERSITY EDUCATION AS A CRITICAL PATHWAY INTO EMPLOYMENT**

Enrolment, participation, retention, throughput, completion, graduation are common indicators used to diagnose the health of an education and training system. The opening statement in a recent background paper produced as part of a “Closing the Skills and Technology Gap in South Africa” project<sup>3</sup> reads: “Higher education has a uniquely important role in resolving the persistent skills shortage in South Africa by producing qualified graduates and postgraduates and by generating research and innovation” (Fisher and Scott, 2011). In support of this, Badsha and Cloete (2011) have proposed that the first function of a university in a modern society is “the education and training of professionals and other high level human resources for the wide range of employment needs of the public and private sectors of the economy”. So while indicators such as enrolment, participation and graduation lead us towards an understanding of the health of the system, employment and ultimately the rewards to and gains in economic activity resulting from that education is the true indicator of impact. But how is this being measured, and what does that measurement tell us?

We know that while South Africa may lead sub-Saharan Africa with a 16% gross enrolment rate, this is low by international standards. We also know that South Africa is characterised as a low participation/high attrition system with generally poor student outcomes overall (Badsha & Cloete, 2011; Fisher and Scott, 2011). What impact is this having on the young people in the country? This

<sup>3</sup> A project co-financed by the Australian Agency of International Development and the World Bank.

question will be explored in greater detail in the next section by looking at what current research reveals about the status of young people in the education sector and in the economy.

## TAKING A SNAPSHOT VIEW OF THE LANDSCAPE: WHAT DO WE SEE?

Systematic research reviewing has an important role to play in providing a context for further research and policy making in a specific field (Andrews and Harlen, 2006). ‘State of the field’ research reviews enable governments, policy makers, researchers and practitioners to have an authoritative handle on key issues related to methodology, key findings and opportunities for further research that result from gaps (deliberate or unintended) in the current research. Critical to the value of the systematic research review is a focus not only on the findings and outcomes of the studies, but also on the “methodological soundness and weight of the evidence” (p 288) that particular studies provide in response to the questions set out for the review. However, Clark and Lovric (2008) caution that one of the “most notable features of the existing body of research on the (secondary-tertiary) transition is the absence of a theoretical model” (2009: 25). While the sections which follow attempt to provide a systematic review of research on school-work-university transitions with the objective of meeting the outcomes below, very little attention has been paid to reviewing theoretical models.

The analysis which follows will:

- Focus on youth employment, labour market transitions, choice and returns on investment in higher education and training;
- Situate the issue of progression and labour market transitions, in terms of policy challenges;
- Set out the ‘state of the art’ required for research tracking students at the higher education level, summarising current research already conducted in South Africa and/or globally;
- Clarify the conceptual frameworks that shape the research;
- Highlight methodological issues and data challenges; and
- Propose what further research would be required.

## 4. WHAT DOES CURRENT RESEARCH SAY?

A number of critical pieces of research have recently been undertaken, which will provide the foundation for this section. Three significant pieces of work will be discussed first, before looking at smaller studies and/or relevant interventions that are fit-for-purpose and which may provide an additional lens through which the landscape can be surveyed.

Beginning by identifying the “who” in this analysis, it is worthwhile to note that most of the local work has been produced by three key centres: the Human Sciences Research Council (Education, Science and Skills Development Programme), the Centre for Higher Education Transformation (CHET) and the Southern Africa Labour and Development Research Unit (SALDRU). Examples of smaller pieces of relevant work have also been produced by the Development Policy Research Unit (DPRU), the World Bank and the Human Resources Development Council (HRDC), the DG Murray Trust, the National Student Financial Aid Scheme (NSFAS), the Rural Education Access Programme (REAP) and a range of researchers, institutional planners at the universities and other stakeholders around the country. This paper will consider each in brief, where their methodological features or key findings have relevance for this paper. In closing this section, the paper will also take a quick look at some international perspectives and reports.

Table 2 provides an overall summary of some of the findings and methodologies of these key papers.

#### **4.1 Youth employment or unemployment**

“the age group defined as ‘youth’, between the ages of 15 and 34 years, is characterised by one of the most important transitional phases in life, namely the transition from education to the labour market and, hopefully, employment. This means that this age group differs from others in that labour market non-participation is generally linked to investment in human capital, with the objective of improved future employment and earnings prospects.”

(Bhorat and Oosthuizen, 2007: 389)

Using Statistics SA’s 2007 Community Survey data, a recent study has determined that of the 6.7m young South Africans between the ages of 18 and 24 years, 2.8m are not in employment, education or training (NEET). This represents 41.6% of the total cohort. All of these people are in need of second-chance education. Of this group, 700 000 of them completed matric, 600 000 of whom did so without meeting the requirements for university entrance. Just over 1m are unemployed with less than a grade 10, and are therefore in need of training and jobs (Sheppard and Cloete, 2009). More in-depth analysis of the employment status of this cohort reveals that 21.3% are employed, with the highest number employed in elementary occupations, followed by those employed in the crafts and related trades works. Only 180 000 of the 1.4m employed are in professional/technical fields, with a further 70 000 employed as legislators, senior officials and managers – a total of 17.6%.

Over time, the number of young people entering the workforce has been substantial, although the economy has not been able to absorb such rapid growth, creating even higher levels of youth unemployment. This is evident in the labour force participation rates amongst those aged 25-34 years which is higher than previously reported at 81.4% in the third quarter, 2011 (DPRU, 2011), although much lower for those aged 15-24 years (32.4%). In 2005, South Africa’s youth-to-adult employment ratio was 1.9 which, while certainly not the lowest amongst developing countries, does illustrate the significantly higher levels of unemployment amongst the youth in South Africa. However, a recent analysis of third quarter 2009 labour force survey data does seem to indicate that the participation rates<sup>4</sup> of young people between the ages of 15 and 24 years, which although low has increased significantly from 22% in 1995, to 26% in 2009 and again to 32% in 2011, although this has increased for those that have not completed grade 9 (Bhorat & Mayet, 2011). All of these factors together create a somewhat unique feature of the South African labour force in the “extent to which the narrow labour force is burdened by the economically inactive within the population of working-age” (Bhorat and Oosthuizen, 2007: 390).

#### **4.2 Transitions into tertiary education and the labour market**

From an analysis of the Department of Education’s student level records, the percentage of successful grade 12 learners enrolling in a public university or university of technology in the year following their matric ranges from 18.5% (2006) to 23.3% (2003). Overall, student enrolment in public higher education has increased consistently year-on-year: by 43% (headcount) from 2000 to 2008; and by 39% (full-time equivalent) from 2000 to 2008 (Bunting et al, 2010). Importantly, what Sheppard and Cloete’s (2009) analysis did show was that of the 2.3m (approximately 35,3%) young people who were enrolled in an educational institution, 69,4% are still at secondary school level. This leaves only 15,3% at public universities and 11,3% at public colleges. It is interesting to note from an analysis of general household survey data that the share of enrolment among universities, universities of technology and colleges has changed significantly over the period from 2002 to 2007. Significantly more young people over the age of 18 years are enrolling in a university relative to a university of technology (increasing from 41% to 54%, with a drop from 29% to 15% for universities

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<sup>4</sup> This is the fraction of individuals in the working age population who remain out of the labour force



of technology), with the share in college enrolments remaining relatively constant (from 30% to 31%).

It is reported that only 30% of all first-time entering students (most of whom are in three-year programmes) graduate within a five year period (Scott, Yeld and Hendry, 2007 in Fisher and Scott, 2011). This is affected by a range of variables beyond the scope of this paper to explore. What can be noted from university performance information data is that undergraduate enrolment represents approximately 86% of the student population (2008 actuals), with only 8% of students undertaking postgraduate study to Masters level and only 6% progressing to doctoral level studies (Bunting *et al*, 2010). From the data provided by the Cape Area Panel Study (CAPS), Branson *et al* (2009) suggest that “unfavourable school and home environments overshadow individual ability ... for all young adults educational attainment and outcomes are still heavily dependent on financial resources” (p 46). However, for young black adults, “unequal home, community and educational circumstances ... place them at a distinct disadvantage long before they enter the labour market”.

With respect to participation in higher education, Badsha and Cloete (2011) cite three critical descriptive parameters across which this indicator can be examined: race, growth rates and success. While the numbers of African students participating in higher education increased between 2000 and 2009 by an average of 6.2% per annum, white student participation only grew by 1.1% in the same period. This growth pushed the relative numbers of African students to over two-thirds in 2009, up from 32% in 1990. Despite this growth however, the participation rate of African students has not increased beyond 13%, given the size of the 20-24 year cohort within this population group.

What remains evident from both the CHET and HSRC papers in this area is that “the school-to-higher-education transition, as this interweaving of choice and constraint, of aspiration and actualisation suggests, is hardly the linear process we often make it out to be” (Cosser, 2010: 11). Breier (2010) argues that while financial constraints (both parental and personal) remain a compelling reason for high attrition within the South African university system, this cannot be seen separately from academic under-performance, persistence and resilience. One of the limitations of current research into student trajectories post-drop out is the lack of reliable, coherent and integrated university/FET data that tracks movements of students within, and between, universities and the FET college system. Despite this however, evidence from the performance indicators programme shows that overall average success rates by course have improved in the period from 2000 to 2008, although these remain below the target set by the Department of Higher Education and Training. The number of graduates has increased by 51% from 2000 to 2008, growing at a slightly faster rate than head count enrolments in the same time.

Moving the focus towards absorption into the labour market, Moleke (2010) confirms the position put forward by Branson *et al* (2009) that the graduate unemployment rate is small, relative to general population unemployment rates. While Bhorat & Mayet (2011) acknowledge that the rate is low in absolute terms, they contend that it has “increased the fastest relative to other education categories since 1995, (and) that it is disproportionately an African graduate problem” and that it is more significant amongst diplomates from non-university institutions than amongst degree-holders from universities. More analysis of the graduate tracer studies conducted at the seven universities selected shows clearly that the absorption rate of graduates into the labour market is good, despite evidence that some graduates take significantly longer to find employment than others. The majority – 70% – find employment within 6 months. There is however a disheartening difference in labour absorption rates by race group, with African graduates taking relatively more time to find employment – only 56% found employment within the first 6 months in comparison to 92% of white graduates. It is not surprising though that in the 2011 third quarter overview of employment trends, “over half (54.8%) of employment growth was concentrated in the two uppermost educational categories (diplomas, certificates and degrees) ... although nearly half appears to have accrued to

those with incomplete secondary education (47.8%) ... in contrast, employment growth in the lowest two categories was negligible or even negative (no education, grades 0-7 only)" (DPRU, 2011).

### **4.3 Tracking students – conceptual frameworks, data and methodology trends**

"the very concept of a completed transition, of defining an end point when we may judge the success or failure of the transition process, has been seen as problematic. But if the end point of transition is problematic, so too is its starting point' ... (and so) ... researchers have come to regard transitions within education and training as part of an overall transition process which starts at the point when educational pathways first diverge and ends at a point when their labour-market position is at least relatively stable."

(Raffe, 2003: 27)

These pathways are best documented through longitudinal studies that can more effectively demonstrate the nodes through which young people transition, taking cognisance of the complexity of these various states. However, the complexity in this transition can only be effectively analysed with data sets that enable linkages across the chain, and through the various institutional types (i.e. schooling, vocational education and training systems, higher education and the labour market).

Since the mid-1960s, a focus on labour market shortages in particular scarce skills areas highlighted the need for a countrywide database on graduate outputs. This function is contained within the Graduate Register, as a sub-section of the National Learner Records Database (NLRD), administered by the South African Qualifications Authority (SAQA). This database is valuable as a research resource, particularly when examining graduate output. Combined with other data sources, it could provide a mechanism for tracking graduate job changes and mobility over time, although to date, this remains a deficiency within the tracer studies undertaken. As identified by Koen (2006), at best, attempts to do this have had to cross match records from population cross-sectional studies, including general household surveys, labour force surveys, income surveys and census data. Koen also refers to institutional data and/or research on students receiving either scholarship or bursary support. In the more recent HSRC study on graduate retention, an extension of this category of student to students holding loans from the state is suggested – see Box 2 later in this paper (Letseka, et al, 2010).

While most of the large-scale studies conducted (Sheppard & Cloete, 2009; Branson *et al*, 2009) use cross-sectional data, the Cape Area Panel Study is an ongoing project of SALDRU that has followed approximately 5 000 young people (who were between the ages of 14 and 22 in the year 2002), through three additional waves of data collection. This rich source of data enabled an analysis of the types of factors influencing the movement from high school to tertiary level studies. A similar set of data is available in the KwaZulu-Natal province through the KwaZulu-Natal Income Dynamics Study (KIDS), and the South African National Income Dynamics Study (NIDS).

Looking to international best practice in researching the education-work transition, the CATAWE project (Comparative Analysis of Transitions from Education to Work in Europe) is often cited (Raffe, 2003; van Trier, 2008; Amer, 2007). Being a multi-country project, this introduced the need first to understand and compare different national transition systems and the data available in these national systems, before determining the methodologies that would best suit the project. While longitudinal analysis was a central part of this project, the analysis used data from different years to follow pseudo cohorts over time. Micro-level longitudinal data could not be used, but was aggregated to smooth out inconsistencies between individual country level data (Raffe, 2003). While Raffe provides an interesting analysis of methodologies for cross-national analysis of transitions, very little suggestions for a single-country analysis are given.

Box 1:

**The Rural Education Access Programme**

In 2011, the Rural Education Access Programme (REAP) celebrated ten years of providing educational opportunities to poor rural students. Over this time, REAP developed a partnership with a number of funders, including the National Student Financial Aid Scheme (NSFAS). This partnership enabled the organisation not only to provide financial access to tertiary education programmes for students from poor communities but also to support success through developmental student support.

A study tracking the first full intake of students supported by REAP in 2002 (a total of 153 students) was undertaken as part of a regular programme of continuous review and evaluation. This is a follow-up to an earlier study conducted in 2005 with the same cohort, allowing for time to elapse following graduation, giving a sense of impact.

The study was undertaken using structured interviews (both telephonic and face-to-face) and life histories and data from both NSFAS and the institutions at which the students were supported.

The findings from the tracking study reveal the following:

- 51% of the students completed their programmes within the minimum time;
- Fairly high numbers of students have gone onto further studies, are intending to continue with their studies or have changed track;
- 60% of the students are now living in urban areas (having followed job opportunities);
- There is a full-time employment rate of 75%, with 19% of this group not having completed their qualifications – 52% within government; and
- The lowest earners are those who did not complete their tertiary studies, with 48% earning salaries of between R10 000 and R20 000 per month in skilled employment.

(Hartnack, 2011).

**Table 2: A summative snapshot of local research**

Research Focus	By/when	Key Findings	Methodological issues	Data Sources
Graduate employment	Koen, C. (2006). HSRC	<p>The 'equity' effects of tertiary level studies in the labour market still reveal a mismatch in respect of race and gender at the high-skills side of the demand market.</p> <p>Institutional research studies have a different focus and rationale to national graduate surveys – partly for knowledge management, partly for educational planning (i.e. enrolment, labour absorption etc), partly for understanding impact of institutional programmes. Student outcomes research within institutions has become increasingly centralised. Growth in vocationally oriented courses and in structural labour market changes has informed course and curriculum development. There is a disparity between employer expectations and graduate outcomes. A range of common themes across all studies is identified and presented in a conceptual framework.</p>	<p>Reviewed 46 studies – using results from national graduate and institutional surveys. Reviewed 30 questionnaires used in institutional research.</p> <p>Institutional research valuable but not a substitute for national tracer studies. Great diversity in methodologies for profession and policy-related studies (reflected on in article).</p>	Journal articles (secondary): national graduate studies, institutional research studies, profession and policy-related studies.
Post-school youth	Cloete (2009) (ed). CHET	<p>Participation of 5-17 year olds in education increased over the period 2002 to 2007, but for those between 18-24 years, remained consistent (slight drop in 2007). The numbers of young people not in employment, education or training (NEET) reduces as the level of education improves. It reflects that “the two worst things that can happen to a student is to (i) drop out of school between grades 10 and 12, and (ii) to get matric without a matric exemption” (p3). Has been a shift in the type of tertiary training with universities increasing their share relative to universities of technology and colleges. White students have greater odds of attending university rather than college, with females less likely to attend university/university of technology. Increased socio-economic status (SES) leads to higher probability of progressing to tertiary education. Individuals receiving bursaries 200-350% more likely to attend university rather than college. The growth in the actual number of students enrolled in tertiary education matched relative population growth – that is, participation rate steady. The 2.8m NEET represent 41.60% of the 18-24 year old cohort.</p>	<p>Analysed 18-24 year old age cohort. Just short of 5.6m person records. Looked at key data fields – educational attendance, level of education obtained, employment status (formal employment, self-employed, unemployed), occupation, levels of unemployment.</p>	<p>2007 Statistics SA Community Survey.</p> <p>Stats SA General Household Survey data.</p>
Tertiary education returns	Branson <i>et al</i> (2009). CHET	<p>Individuals with a tertiary education were three times more likely to be formally employed than those with less than matric – and their earnings were likely to be 320% higher. Graduate unemployment does appear to be increasing – doubling between 2001 and 2007, but relative to unemployment at other levels of education, this remains small (15 000 of a total of 2.8m). University share in enrolment significantly higher than university of technology and college.</p>	<p>Cross-sectional population study using existing data set from Stats SA.</p>	<p>National General Household Survey (GHS) data.</p> <p>Cape Area Panel Study (CAPS).</p> <p>Labour Force Survey (September).</p>

Transition school-to-HE	Cosser (2010). HSRC	2/3 of completers and non-completers and graduates chose their subjects for the FET phase of schooling. Counter-intuitively, those who did not complete the HE were more career-oriented when choosing their FET subjects than those who graduated. Three key factors influenced student enrolment in HE – an interest in studying in a particular field, to improve chances of getting a job and HE education as an enabler of greater earning potential.	Student questionnaires amongst seven HEIs. Survey traced educational journeys and branching points from grade 9 to and through HE and into work.	Qualitative data – survey instrument.
Graduate labour market	Moleke (2010). HSRC	Graduate unemployment estimated at 4.3%, an increase of 0.6% from 2006, compared to a population unemployment rate of 25%. 23% of graduates experienced unemployment during 2002 to 2007 – 58% of whom had been searching for employment for over one year. African graduates search for the longest – 52% having searched for over 18 months. Of those who found employment, 94% were wage-workers, 6% in self-employment.	Surveyed graduates from the seven HEIs under investigation. Tracer study.	Labour Force Survey March 2007. Tracer studies in selected institutions.
Labour market destinations and earnings	Bhorat <i>et al</i> (2010). HSRC	For every two white student who graduates, one white student exits prematurely – opposite true for African students, with almost two students dropping out for every student that graduates. Unemployment rates are much higher for non-completers than for graduates – also differs by institution (with graduates from historically white universities showing a lower unemployment rate than those from historically black universities). Unemployment rates for African graduates and non-completers higher than for whites. However, no significant differences in earnings amongst those employed, by race but there is by gender (males > females).	Traced the 2002/03 cohort of students from seven HEIs. Used range of co-variables to model educational attainment and labour market outcomes (through an econometric model). Descriptive study.	Two postal surveys (2005) – 15.8% return rate.
Performance indicators	Bunting <i>et al</i> (2010). CHET	20 graphs were produced reflecting changes from 2000 to 2008 in key areas such as student enrolment and outputs, staff data and financial data.	Part of an ongoing programme of measuring performance within HE.	HEMIS data – based on institutional data submissions

## 5. WHAT DOES CURRENT RESEARCH NOT TELL US?

Perhaps one of the most useful observations noted in this review was the following:

“the essential shortcoming is probably that the policy focus in tracer studies has produced research that is often not integrated with other economic data. Indeed, it is significant that no systematic analysis has been done on what census data reveals about graduate employment patterns.”  
(Koen, 2006: 22)

While not fully comprehensive, some suggestions from the existing research and programmes reviewed in this paper point to the gaps identified below. Over and above the critique by Koen (above), studies on school-to-work transition have relied disproportionately on secondary data sources such as general household surveys (including labour force surveys). In the international context, a further source of information is derived from surveys of school leavers (graduate outcomes surveys). Graduate surveys, such as those reviewed by Usher and Marcucci (2009), have been designed as either censuses or sample surveys. Of the 13 surveys reviewed, half used a cross-section of the student population at a determined point post-exit from the university and the balance adopted a longitudinal design methodology.

Box 2:

### **The NSFAS First Five Years Cohort Study**

The National Student Financial Aid Scheme (NSFAS) holds a rich database of the students it has served since its inception in 1991, as TEFSA (the Tertiary Education Fund of South Africa). This database holds information, at a student (or debtor) level, related to the number of years of study funded by NSFAS, the courses funded (not by CESM category unfortunately), the universities attended, the year of exit/graduation, the employment status of the debtor and salary (where given).

NSFAS recently commissioned an extensive piece of research into five cohorts of students funded. From the 2000 academic year to the 2004 academic year, the study traced the enrolment, funding and progression of each new student funded from their first loan (this defined each of the cohorts) to their last/most current repayment. The NSFAS data was supported by HEMIS data supplied by NSFAS. It was the intention to further triangulate this data with data from the LURITS system (Learner Unit Record Information Tracking System), but this was not possible in the timeframes available (although the research team did use their own data sources to supplement this where possible).

This research project is now complete, and the final report has been presented to the NSFAS Board, although it has not yet been made public. The findings of this report will be a key piece of research to take into account in the next phase of this project.

As a result it is necessary to:

- Provide a clear definition of what an unemployed graduate is (Koen, 2006), one which is not dependent on respondent judgments (using administrative data rather than self-provided data);
- Find more analysis on the census data set in order to fully assess the NEET status (Cloete, 2009);
- Determine if similar projects to the Cape Area Panel Study would provide useful data to augment existing data sets – for example, the KwaZulu Income Dynamics Study (KIDS) which is a 10-year, 3-wave panel study. It would be useful to benchmark these findings against national level data in the Labour Force Survey, to determine the degree to which this descriptive provincial data is aligned to the national data set;
- Separate out labour market absorption rates for undergraduate vs. postgraduate qualifications, by field of study, by sector of employment (public/private) particularly in rural areas (Koen, 2006);
- Undertake further research on the extent of participation of young people in Sector Education and Training Authority (SETA) programmes, and integrate data held by the SETAs into the labour market and education and training datasets (Pampallis, at the World Bank Closing the Skills Gap workshop, March 2012); and
- Provide clear accounts of why students with financial resource and in good academic standing who elect to study at a particular university choose to leave that university before completing their degree (Breier, 2010). This may require further qualitative research into the complexities of individual pathways, best gained through panel studies on this category of students across universities/colleges.

Using administrative data – such as that profiled in Tables 1a and 1b above – juxtaposed against the pathways flows (diagrams 1 and 2) would be a useful starting point for a further analysis (a look at some of the work undertaken by Michael Noble and the Centre for Analysis of South African Social Policy<sup>5</sup> may be useful in the next phase). Administrative data from different systems and sectoral data sets can be used to track individuals through education, employment and/or training systems to understand movements in and out of poverty due to changes in education or employment status. Where this administrative data can be triangulated by ‘connecting the dots’ at an individual level, tracking of the progress through education and into the world of work and the income-earning status becomes possible. A diagrammatic representation of this suggested methodology and its related datasets is provided in Annexure 1.

## LOOKING INTO THE FUTURE

### 6. KEEPING THE TREE GROWING

Different strategies and interventions at school, university and within the labour market are necessary to facilitate the movement of young people from school to university and to- the workplace. An example of one such intervention is profiled below. Many more exist and will need to be considered as part of the broader picture of this project going forward.

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<sup>5</sup> <http://www.casasp.ox.ac.uk/reports.html>

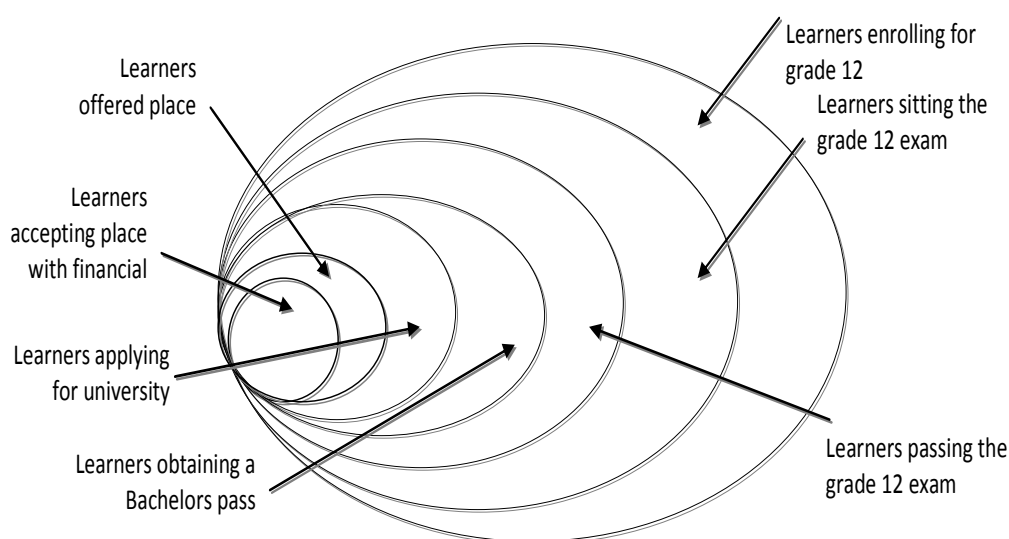
## 7. PREVENTING TRAFFIC JAMS

To minimise the likelihood of young people progressing through the educational system in a stop-start-stall pattern, we need to understand more clearly how they are moving through the educational system and what determines their levels and differences in educational attainment and achievement. Key recommendations for specific projects and surveys could include the following:

- Tracking students from school to university by looking at the predictive relationship between subject choice, undergraduate pass rates, and institution and programme choice decisions, and the impact of this on labour market absorption. Using this data to demonstrate the supply-demand nature of employment as an input into human capital planning programmes, modeling future demand as a planning tool for study programmes and career guidance. This simply means that the project could look at the extent to which subject choice determines the choices of which university and/or which programme of study to follow, and from this, to what extent this determines how easily a graduate is absorbed productively and effectively into the labour market;
- Taking a closer look at the differences in labour market outcomes by institution and by programme, and as an extension of this, designing graduate tracer studies which can be used across the system;
- Looking at the impact of financial exclusion versus academic exclusion on students exiting higher education, and the extent to which this impacts on employability. This could be achieved through the continuation of the NSFAS study – examining the second cohort of students supported; and
- Integrated analysis that looks at the participation within the FETC and SETA training environments as a comparative against higher education programmes.

As an analytical tool, it would be interesting to be able to quantify (using LURITS, matric results, HEMIS and SAQA data) and describe the pool of young people working their way through the system, using the organising framework overleaf.

**Figure 3: An organising framework for describing the narrowing of young people's participation in higher education**



Source: Author's own



## Box 3

**University of the Free State**

In terms of increased collaboration between HE institutions and FET-Colleges, as mandated by the DHET to try and curb the NEET crisis, various persons and divisions at the University of the Free State have been doing work within three main projects:

1. The first and longest-running project is the University Preparation Programme (UPP), which started in 1993. It was developed to provide access, through an extended approach, to Universities and (post-school) FET Colleges for deserving students who did not meet the minimum paper requirements for mainstream studies. Since it started, about 1500 degrees have been awarded to former UPP students, including 8 doctorates.
2. The second project is a College Survey of Student Engagement, funded by the Ford Foundation. This survey has been conducted by UFS staff at 5 selected FET Colleges on the NCV L2 and the results are being processed and presented to each of the mentioned colleges during the first semester of 2012. The basic purpose of the survey is to provide actionable data to institutions about the prevalence of effective educational activities that are associated with high quality learning environments and student success.
3. The third project is the development of a bridging/extended course for FET Colleges at NCV L2, also funded by the Ford Foundation, which will allow deserving candidates who do not meet the minimum requirements for mainstream FET studies to enter into the FET system. At this time research and development work is, to this end, still being done in collaboration with selected FET Colleges. The idea is for the UFS to support the development of these programmes at the Colleges involved, based on local needs, as well as to provide staff training and development to serve the programmes, once established.

The UFS work is therefore largely focused on providing successful access to various education and training options for deserving candidates who, for various reasons, would not be able to gain access to the relevant institution.

Hanekom, G., Strydom, F. & Marais, F. (2012) Personal communication.

Knowing more about what determines their level of success in entering the labour market, and what influences the labour market outcomes for these young people is a critical contribution to enabling success in this area. It is important to consider the extent to which different typologies of pathways or different institutional types could either work to widen the opportunity gap (create more social exclusion) or to bridge that gap.

To do so successfully, not only would a project of this nature need to collect longitudinal data that can be used to detail the educational journeys of young people to-and-through university, and other forms of post-school education. Ensuring the robustness, integrity and completeness of the data set is also a priority, so that micro-level data can be extracted to profile the early labour market movements of the cohort and the variables that constrain or create career opportunities. Both school level individual learner data and labour market entry surveys could be considered as useful tools.

## CONCLUDING COMMENTS

Koen (2006: 24) wisely commented in his concluding remarks that there is a need to “determine more systematically the scope of existing knowledge about graduates and to develop a research agenda to fill knowledge gaps ... (reflecting that) the wrong response would be to persist with the current pattern of conducting research, which to a large extent simply reifies existing knowledge”. This statement remains true. For this labour market intelligence project, the aim is not to replicate previous programmes of research, but to understand how these research programmes can be used to direct new efforts to integrate what is known, where that knowledge is stored, and how data can be intelligently integrated to create relevant knowledge.

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## ANNEXURE A: USING ADMINISTRATIVE DATA TO SHOW PROGRESSION THROUGH-AND-TO WORK

