



BRIEFING NOTE

Creating a credible institutional mechanism for skills planning in South Africa

The Labour Market Intelligence Partnership has conducted a set of research studies to inform the creation of a more credible and effective institutional mechanism for skills planning in South Africa. The LMIP research consortium will share the emergent recommendations and policy insights at a briefing workshop to the Minister of Higher Education and Training, on 31 March 2015.

The workshop will consider how the research and evidence base can provide a foundation for the achievement of Government priority outcome 5.1.1.

This briefing note provides a high level synopsis of six focus areas selected for discussion at the workshop:

1. A credible institutional mechanism for skills planning
2. The need for a SETA labour market survey
3. Attitudes to work: Social attitudes have a bearing on labour market outcomes
4. University graduates' transitions to the labour market: An Eastern Cape pilot study
5. Responsiveness to firm demand: Enhancing the interactive capabilities across the post-school system
6. Planning for artisanal skills: The importance of understanding changing artisanal milieus and identities

For each of these focus areas, key findings from the research studies are highlighted in bold, and key policy implications in italics.

1. A credible institutional mechanism for skills planning

Vijay Reddy and Marcus Powell

In a global and local economy it is important to understand what types of key occupations, and accompanying skills, are required to support economic growth, trade and investment. It is equally significant to understand how these occupations will be developed and who is involved in this process. Since 1994 there have been efforts to plan for skills development, but the skills planning mechanism failed to operate as effectively as anticipated. This can be partly attributed to over-ambitious objectives and to a lack of coordination among key players. Hence, the 2010 delivery agreement signed between the President and Minister of Higher Education and Training, Outcome 5.1.1, required the DHET to lead a process to ‘*establish a credible institutional mechanism for skills planning.*’ This represents a coherent attempt to develop a more realistic approach to skills planning that encompasses stronger coordination across Government ministries, as well as establishes links between decision making processes and outputs from a Labour Market Intelligence System.

Skills planning, at its core, requires an understanding of the interaction between the demand and supply of skills and the extent of this match. Skills planning is important for governments so that they can make more informed decisions about: (i) where and how to invest its education and training resources; (ii) how to allocate work visas; (iii) enrolment planning, new programmes and the infrastructure investment needed to make this possible; and (iv) career guidance programmes.

Countries plan for skills in different ways: these differences relate to the role of the state, the skills planning approach, and the focus of information gathering. Examples from relevant countries include the following:

- In countries following a **market-based approach** (UK, USA, Canada, New Zealand), the market is assumed to provide the mechanism for matching the supply and demand, with the state's role limited to providing information and funding when the market fails. The Ministry of Education is the key driver of the process. When skills shortages occur it is assumed to be associated with a weakness in the supply side and a failure of providers to adjust to labour market changes.
- In countries following an **employer- or social partner-based approach** (Sweden, Netherlands, Finland, and Denmark), more emphasis is given to understanding the skill level and occupational structure of the workforce. The Ministry of Labour monitors the changing nature of the labour market to understand skills gaps within companies, by understanding vacancies in the labour market and analysing who the job seekers are. Government and social partners use information to determine how resources will be allocated to tackle skill shortages and priorities, and skills development is supported through the workplace.
- For countries where there is **strong state intervention** in the skills planning process (Singapore, Taiwan and South Korea), the information for skills planning will include data on supply, demand and understanding vacancies and skills in the workplace. In addition, information is collected on trends in the economy, including trade and investment strategies. Government, with partners, uses the Labour Market Information to ensure alignment between industrial strategies and strategies for skills development.

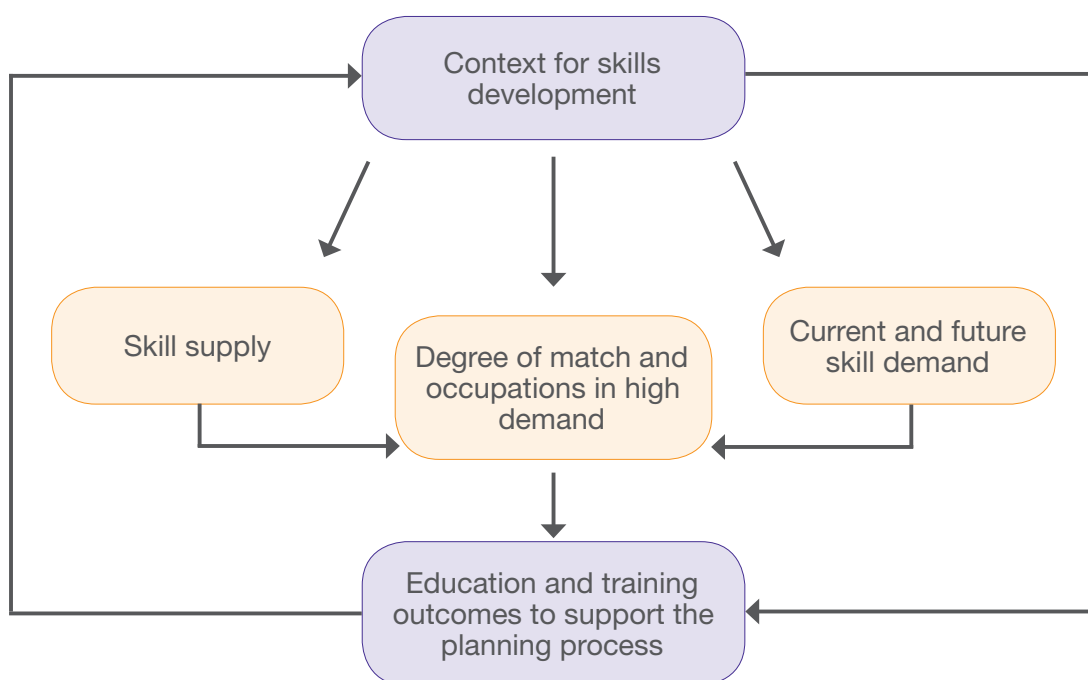
From our analysis of past South African skills planning and international experiences we propose that the **South African skills planning approach emphasise the analysis of skills demand**. We need to read the signals of demand for skills from the economy, government growth strategies and trade and investment policies. The strategies for skills development (both professional and intermediate) will then be more closely aligned to policies for industrial development and skills-biased government growth initiatives. Skills planning

must promote an inclusive approach to skills development with a focus on improved levels of education and training for the population and improved workplace training. South Africa will follow this unique approach to reflect our country's needs and historical circumstances. The Labour Market Intelligence System for South Africa (LMIS-SA) will include data on skills supply, skills demand, workplace skills and vacancies, trends in the economy (both private and government growth initiatives), and trade and investment strategies. Government, with partners, will use LMIS-SA to ensure alignment between industrial strategies and strategies for skills development.

Given the proposed inclusive economic skills planning model, the following framework is proposed for the data and information needed to plan for skills needs.

FIGURE 1

Framework for skills planning: Data and information required



Data will be collected on: (i) the context in which skills development takes place; (ii) skills supply; (iii) current and future demand for skills; (iv) occupations in high demand; and (v) the education and training outcomes that support the planning process.

At the heart of any system producing labour market intelligence, there is a central body responsible for coordinating the different processes associated with the collection, collation and analysis of data. Such a body must have political support and a significant budget to perform this function. *LMIP recommends the establishment of a Skills Planning Unit which, for now, would be located in the DHET. The Skills Planning Unit must employ staff with labour market economics and planning skills.*

In consolidating the Labour Market Intelligence System (LMIS-SA), we need to firstly focus on **what** data needs to be collected, **where** the data will come from, and the **arrangements** that need to be in place to access the data. Secondly, we need to know how the data will be analysed and the types of labour market intelligence that will be produced. LMIS-SA will collect data on the context for economic growth, skills supply, skills demand for both current needs and future needs and on education and training outcomes. This data for skills planning is organised around a set of indicators described in the table below.

Key areas of information	Data and information	Data sources
Economic context	<ul style="list-style-type: none"> Economic drivers (GDP, exports, investments) Demographic changes 	StatsSA
Supply: stock and flow of skills	<ul style="list-style-type: none"> Grade 9 and 12 pass rates Enrolment and graduation rates at higher education and TVE colleges Immigration rates Training in the workplace 	DBE HEMIS/ HETMIS DHA SETA Labour Market Survey SETAs WSPs and ATRs
Demand	<ul style="list-style-type: none"> Sectors and occupations employed Job vacancies Skills gaps (critical skills) Earnings Hard-to-fill vacancies Global demand 	StatsSA JOI/DoL SETA Labour Market Survey SETAs WSPs and ATRs StatsSA Global surveys & visa lists of other countries
Replacement demand	<ul style="list-style-type: none"> Turnover of personnel Mortality rates Retirement from workforce Emigration rates 	SETA Labour Market Survey SETAs WSPs and ATRs Strengthen DHA Population Register SETA Labour Market Survey/ StatsSA Work with DHA for standardised measure of skills outflow. Short-term use OECD estimates
Future demand	<ul style="list-style-type: none"> Changes in population Projections in economic growth Skills signals for government growth priorities Skills signals for new and potential business 	StatsSA MEMSA(Wits); National Treasury Forecasting Model, MTBPS Template for Skills estimates from SiPs and other growth priorities DTI
Education and training outcomes	<ul style="list-style-type: none"> Pipeline from schooling Not in education, employment and training Access and outcomes at university and TVE colleges Access and outcomes to artisanal programmes Access and outcomes to community programmes and adult education centres Workplace learning programme Instructors educational qualifications 	DBE + new datasets QLFS HETIS & HEMIS +new datasets Artisanal data bases + new datasets New datasets needed Reforms to WSP & new datasets New datasets

Data will be collated from existing administrative data, from modifications to surveys to produce the required information, and by setting up new surveys to address data gaps. **To access data from other government departments, the SPU will sign MoUs with these entities for the form and frequency of the information required.** The collection and analysis of data on the demand situation is complex, and will involve the SPU working with outside organisations.

The set of key indicators for skills planning provides the basis for decisions on skills shortages and identification of the list of occupations in high demand. LMIP proposes a set of 20 indicators to inform the skills planning process, and 13 indicators which monitor the outcomes of education and training institutions, both of which are key to supporting the skills planning process and ensuring resources are utilised more effectively. There are 13 skills planning indicators and 5 skills monitoring indicators where data is readily available (first stage indicators). The others will take longer to collect and will require some changes to data collection instruments or the creation of new instruments (second stage indicators). *We recommend the set of first stage indicators be utilised to produce an annual report on the Status of Skills in South Africa. As new data becomes available it would be added to the Annual Status of Skills Report. LMIP recommends that the DHET adopts the above framework and indicators for reporting on the Status of Skills in South Africa.*

No discussion of a skills planning mechanism would be complete without a debate on the list of **occupations in high demand (more commonly known as the scarce skills list)**. The longer-term success of the skills planning mechanism will be judged by the degree to which there is a match between the supply and demand for skills in South Africa. The analysis of skills shortages guides the production of the list of occupations in high demand and identifies skill areas in which resources must be invested – this is at the heart of the skills planning mechanism. Most free-market economies use the scarce skills list for the purpose of allocating foreign visas. In South Africa, this list informs visa allocation and education and training priorities. **LMIP proposes a more coherent methodology to estimate the occupations in high demand and to develop a more formalised response.** In this process, occupations in high demand are identified and the scarce skills report recommends responses that need to be implemented over the short, medium and longer term. Each of these timeframes will require different strategies and types of interventions by the DHET and partners. In the short term, emphasis will be on rapid responses to occupations in high demand, with emphasis being given to providers that can instantly increase the supply of skilled graduates in these areas. Where supply cannot be increased over the short term, emphasis will be given to the allocation of visas to areas in which there is an identified high demand. For the medium term, strategies will be necessary to identify what new programmes need to be developed or instructors trained. The precise strategy will be determined by the nature of the occupations in high demand. Finally, longer strategies will also focus upon what new capital developments must take place to support the expansion of certain types of skills, especially those areas that take a long time to develop. *We recommend that the responses for each of these time frames must prioritise intermediate level skills.*

In addition to the technical process of collating, collecting and analysing data to generate the information and intelligence to inform skills planning, there is a need to focus on the coordination and coherence of skills plans and policies across government, organised labour and business. This will ensure: (i) the coherence of skills policy at the national, sectoral and institutional levels; (ii) that the SPU is informed of the key skills-biased growth and investment strategies (from both government and the private sector); and (iii) agreement on the direction and types of education and training programmes.

The **skills planning mechanism** then refers to the intelligence, institutional structures, processes and agreements for undertaking the planning as well as the wider political economy which influences decisions on how resources are allocated for skills development.

2. The need for a SETA labour market survey

Haroon Borat and Karmen Naidoo

There is widespread recognition of a major gap in the currently available labour market datasets, in terms of their ability to analyse skills demand and training supply at the sectoral or regional level in a more nuanced manner. In particular, the entire SETA system has been hampered in its delivery of Workplace Skills Plans and Sectoral Skills Plans to Government, by the lack of a granular, high-quality, analytical and statistical information base – relevant to its own specific labour market. The LMIP SETA Labour Market Survey aims to address this gap. In particular, the survey, piloted for one SETA, the MerSETA, is focused on collecting detailed training and labour market information – *directly relevant to the labour market in which the SETA operates*. In doing so, we hope to deliver a first, unique SETA labour market survey to the DHET.

The key questions that will be explored through such a SETA-level survey include:

- What is the current employee profile of workplaces and in particular what (if any) is the relationship between wages, qualifications and occupations?
- What is the relationship between these variables (wages, qualifications and occupations) and who has access to training and the nature of the training that they receive?
- What is the rationale for training and to what extent does the training result in the anticipated benefits?
- At which type of institution(s) does the training take place and why?
- What are the factors that enable or hinder training from having the anticipated benefits (taking into account the selection of individuals for training, the quality of the training that they receive and the role played by the SETA)?
- What are the factors determining the level, type and length of training undertaken by firms?
- Do larger firms train more than smaller firms? Does firm training expenditure differ by worker characteristics?

The survey aims to achieve this purpose in a number of ways:

1. Firstly, the survey is designed to collect **baseline data** about the employment profile of each firm (including employees' current qualifications, job title, contract type and wage level) as well as the nature of the education and training provided (including the type and name of the programme, its duration and whether the individual has completed the programme or not). Critically, the data is collected **per employee**.
2. Second, the survey focuses on understanding, at the firm level, **the rationale for training**. This encompasses a range of questions relating to employee turnover, current shortages in the business, how employees are selected for training, and the perceived benefits to the firm of training.
3. Thirdly, the data collected would allow for the evaluation of the **impact of the training**. Depending on the quality of the data, the impact of training can be measured in a number of ways: The impact on employee wages, on employment status (for example, if part-time workers converted to full-time workers), and on productivity. We focus on employee wages.
4. Related to the impact evaluation then is the fourth aim of understanding the **factors that have enabled or hindered the impact of training**. The survey instrument includes questions about the quality of training and the firm's internal methods of impact evaluation.
5. Lastly, the survey will act as an important tool to assess the firms' perceived **performance of the respective SETA**. The last section of the survey asks the participant to evaluate the relevant SETA according to a number of key performance indicators and so can complement existing measures of SETA performance.

The survey **does not focus on projecting skills shortages**: thus while it asks about vacancies (in part linked to the rationale for training), it does not probe perceptions of future shortages. Such a survey does not lend itself to projecting shortages, and alternate methods of research and forecasting may yield better data. Rather then, this survey's purpose is to provide information primarily about who is gaining access to training, why and how they are chosen, and what the impact is for the firm and the individual. This, combined with the questions about vacancies, can be used to understand **current skills gaps**.

The future success of the survey requires collaboration amongst all the relevant role players: the DHET, SETAs, and levy-paying firms that are engaged with the SETAs.

3. Attitudes to work: Social attitudes have a bearing on labour market outcomes

Bongiwe Mncwango

The role of attitudes in shaping individual behaviours – and hence, labour market and educational outcomes – has for a long time been neglected in skills planning debates in South Africa. The literature shows that public attitudes to the labour market are shaped by perceived opportunities and constraints, which in turn frame expectations and aspirations for labour market participation and employment. To close this gap, the LMIP collected data on social attitudes to the labour market by including questions in the HSRC's *South African Social Attitudes Survey* of 2013.

A systematic and methodologically sound structure for studying changing work attitudes, values and behaviour patterns of South Africans in and out of the labour market has been initiated. The dataset will supplement existing labour market macro datasets, which do not address the attitudinal variables useful to understanding public perceptions of work and work-seeking behaviour in much detail. Policy to develop skills and create employment will potentially be enhanced by factoring in the nuances of attitude and behaviour of work-seekers and workers, as significant predictors of preferences and behaviour. Understanding general public attitudes towards the labour market and perceived bottlenecks to participation can impact on the efficiency of government's skills planning interventions.

Drawing on behavioural economics, the main aim of the study was to investigate attitudes, work values and preferences, and their effect on the behaviour patterns observed in the labour market. Data was collected from a representative sample of South Africans – both employed and unemployed work-seeking individuals, and those who are inactive in the labour market.

1. **Education as a major constraint on labour market participation:** Education remains an important currency in the labour market. A large proportion of the respondents attributed unemployment to the country's failure to provide the requisite quality education and skills training demanded by a modern and technologically advanced economy. This perception is much more prominent in the minds of young adults than their older counterparts. Poorly qualified school leavers keenly feel their personal lack of skills and capacity to engage with the needs of potential employers. Residents in traditional authority areas were more likely than others to mention lack of qualifications as a reason for unemployment. The vulnerability of workers who are struggling to penetrate the labour market due to low skills and irrelevant skills is highlighted.

This reinforces the need for a skilled workforce that is more responsive and adaptive to change. This workforce should also have skills that are portable across different jobs and sectors of the economy.

2. **Unemployed youth are the most optimistic about employment prospects:** Unemployed youth held a very positive outlook about the prospects of finding employment: The level of optimism about finding employment was closely related to the level of education completed, with the least educated being the most pessimistic. Initially, youth are more likely to have a positive outlook about finding employment, but tend to become less optimistic during their mid-20s, a critical age of self-assessment.

This positive finding places a burden on policymakers to ensure that the dreams and expectations of young South Africans are progressively realised. A significant relationship between 'employment expectation' and job search behaviour is evident. Unemployed South Africans who were more optimistic about finding employment in the near future were more likely to be searching for employment.

3. **Reliance on informal job search methods:** The unemployed display an overwhelming reliance on informal methods and social networks to find employment. The use of social networks shows that formal structures for job seeking are not efficient. A common barrier faced by rural residents is lack of information on job opportunities. Users of the internet are more likely to be in the higher than the medium or low social classes.

Methods of job seeking used by different social groups, particularly the poorly educated segments of our communities, need to be taken into consideration, and more platforms that break down literacy and language barriers are required.

4. **Declining levels of job satisfaction (between 2003 and 2013) amongst the employed:** Large differences in perspective exist, based on labour market positions. Lower-skilled workers shared lower job satisfaction and greater concern about job security, fair remuneration and career growth.
5. **There are different dimensions of disadvantage, which call for adaptable and targeted policies that will benefit the most vulnerable:** The behaviour and beliefs of groups distinguished by age, race, education and gender, determine how, and if at all, they search for work or engage in further education. Little research has been devoted to explaining these differences in motivation and in labour market behaviour.

Skills planners need to include an understanding of what South Africans think about work, what they value from work, their subjective evaluation of their working conditions and jobs, and how those who are without work are looking for it.

A national-level monitoring system of the social attitudes of ordinary South Africans towards the labour market can thus provide a dataset that allows for more nuanced skills planning. The development of a set of core questions that would be fielded annually to all respondents, as well as rotating modules on specific themes that could be fielded every three to five years, are recommended. The major stakeholders would be the Presidency including PSPPD, DPME, the National Planning Commission, the DHET and the Department of Labour.

4. University graduates' transitions to the labour market: An Eastern Cape pilot study

Michael Rogan

Understanding the higher education trajectories and labour market outcomes of distinct groups of young people is critical to inform a skills system that contributes to inclusive development. We currently **need more information on what happens to university students after they graduate**. Analyses of the national Labour Force Surveys (LFSs) are instructive but they are limited both in terms of specificity and focus.

In order to address this gap, the LMIP conducted a graduate tracer study which followed successful graduates from the 2010 and 2011 cohorts of the two traditional universities in the Eastern Cape (Rhodes University and the University of Fort Hare). The study piloted several new methodological approaches in terms of sampling and instrument design in order to improve the collection of information on graduate labour market outcomes and to inform the design of future retrospective tracer studies in the South African context. In particular, the study surveyed a representative sample of graduates from the two universities.

The aim is to inform the design of future retrospective tracer studies in the South African context that can **be institutionalised across the higher education system**.

Using this methodology, fresh insights into trajectories and labour market outcomes were possible:

- Schooling background, race and gender are significantly associated with (i) successful career choices, and (ii) the risk of unemployment.
- 1. **Degree choice:** Graduates from **low quintile schools** were significantly less likely to obtain their first choice degrees (and particularly those who wanted to study a Commerce or Science Engineering and Technology degree). However, field of study does not appear to be an important predictor of employment.
- 2. **Unemployment:** Women who matriculated from **low quintile schools** face a particularly high risk of unemployment. Unemployment rates differ considerably between universities – for example, the unemployment rate for Fort Hare graduates was roughly three times higher than for graduates of Rhodes University.

Among the graduates from Rhodes University, and after controlling for all other factors, Black graduates were significantly more likely to be unemployed.

Among the Fort Hare group, **schooling background** and **gender** seem to be more important than field of study for finding employment.

- 3. **Employment:** Among employed graduates, Rhodes graduates mostly work in the private sector and Fort Hare graduates are much more likely to be employed in the public sector. The ways of finding jobs are also very different – for example, Rhodes graduates are much more likely to have used their social networks to find employment.

Higher education institutions should provide systematic information about the employment rate of their graduates:

- *Employment rates differ considerably by institution in South Africa.*
- *Policy interventions should not be uniform across all universities.*
- *Based on the comparison of Rhodes and Fort Hare graduates, it is also likely that the specific factors which are linked with the likelihood of finding employment after graduation differ both within and across different institutions of higher education.*
- *University records/data systems are well positioned to store and update relevant information on their graduates.*
- *Graduate tracer studies could become institutionalised at South Africa's public universities.*

5. Responsiveness to firm demand: Enhancing the interactive capabilities across the post-school system

Glenda Kruss and Il-haam Petersen

A central challenge for the implementation of a skills planning mechanism lies within the capabilities of key actors at different levels of the system. Firms and skills planners need to have an enhanced understanding of the capabilities of PSET organisations, to inform and influence their core education and training activities. And in turn, universities, TVET colleges, and other public and private providers need an enhanced understanding of how they can respond to the changing technological capabilities and skills needs of firms, in relation particularly to professional, occupational and skills-oriented programmes, and to their role in producing the ‘right’ graduates for the workplace and the national economy.

We thus conducted three case studies of sectoral systems of innovation as a means to identify what is possible on a wider scale: astronomy and the SKA; automotive component manufacturers in the Eastern Cape; and sugar-cane growers and millers in KwaZulu-Natal. Here, we draw out high-level implications for the post-school sector, based on the central conclusion that:

Skills planning requires a sound understanding of the will, competencies and interactive capabilities of universities and colleges to respond to firm demand.

1. In order to achieve their role in preparing young people for the labour market more effectively, universities and colleges’ interaction with firms, government agencies, professional bodies and other actors can have many benefits. For example, linkages with professional bodies, industry associations, firms or government agencies may lead to funding for bursaries, or chairs in new fields, or more employment opportunities for graduates. Linkages may assist universities and colleges to achieve their strategic goals, and to contribute to national economic and social development goals. However, the evidence suggests that many academics and lecturers actively oppose any initiatives that they perceive as imposing a narrow instrumental approach to training.

To lay the basis for a shift to an inclusive economic demand-led model of skills planning, an advocacy process to effect a change in thinking may be required. Universities and colleges, their leaders, managers, academics and lecturers need to be convinced of the value of interaction and networking with firms, government agencies and other organisations.

2. Firms and employers are only willing to work with universities and colleges that produce quality graduates able to perform in the workplace. They choose to link with the university or college that they perceive to have the strongest expertise in the fields related to their enterprise, and they are reluctant to collaborate with those that are seen to produce poor quality graduates.

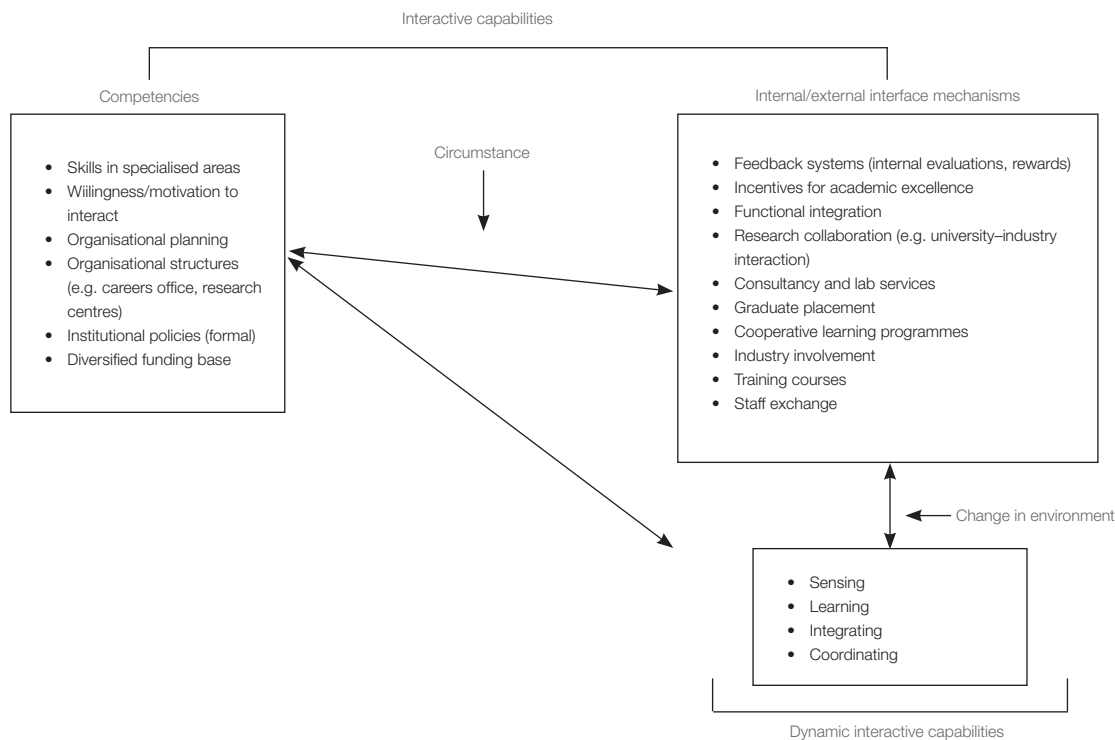
Developing these academic ‘competences’ in core programmes, curriculum and pedagogy is a necessary – but not sufficient – condition for responding to demand.

3. Colleges and universities also need expertise, structures and interface mechanisms that can support linkages with firms, government agencies and intermediary organisations, that is, to develop ‘interactive capabilities’. The leadership of a university and college plays an important role in terms of the policy and direction they provide, as do academics and lecturers that can provide innovative and well-grounded courses.

Strengthening universities and colleges' interactive capabilities should be a fundamental focus for leadership within post-school organisations and for the DHET across the post-school system.

FIGURE 2

Framework for enhancing universities' and colleges' competencies and capabilities to respond to firm demand



4. There are many **external interface mechanisms** that are historically and currently very effective. The system of cooperative learning pioneered in the technikons and developed in the universities of technology can be extended to other contexts to promote different forms of work-integrated learning. Public–private partnerships, advisory bodies on which local industry and communities serve, and research centres may provide interface structures that support collaboration with key sectors in the local environment, and draw in academics in other fields as needed. Testing centres may lead to collaboration with private providers and agreements with firms to place students. Careers advisory and placement centres play key roles linking graduates to firms, in networks with industry associations and professional bodies.

Such structures and interface mechanisms should be extended and grown in more colleges and universities, drawing on good practice as a guide, so that responsiveness can be deepened.

5. We live in a world in which technology and work are changing rapidly, which means that the **qualifications and skills required are changing**. The ability to continually sense changes in the environment, adapt to the demand for new skills, and coordinate change across the university or college is critical. Where universities and colleges have developed these 'dynamic interactive capabilities', they are able to operate in more proactive and strategic ways, in line with their own core missions and goals, rather than reacting in an ad hoc way to firm demand, or to policy requirements.

Developing dynamic interactive capabilities of individual lecturers, academics, departments, centres and leadership will mean that universities or colleges can respond more appropriately to changing skills demand.

6. Planning for artisanal skills: The importance of understanding changing artisanal milieus and identities

Angelique Wildschut, Jeanne Gamble, Nhlanhla Mbatha and Tamlynne Meyer

Over the last three decades, there have been extensive changes to the nature of work, given the increasing impact of technology, changes to work organisation, and new fields and forms of practice that are emerging. In addition, our country has a complex history of technical and vocational education and training (TVET), characterised by gender, race and language inequalities. These trends have implications for our understanding of artisanal work, and lead us to question: How can and should we plan for artisanal skills in such shifting occupational contexts?

Improving our ability to plan for artisanal skills requires a better understanding of the complex and multi-layered contextual issues that impact on the extent, nature and location of demand and supply of artisanal skills. Critical questions to direct such an endeavour would thus be: How have historical patterns shaped the nature of artisanal training and work today? How can planning for artisanal skills respond to the changing nature of work and the division of labour in the workplace? How can planning be responsive to innovation and change?

To engage with these questions, three projects were developed to investigate: the underpinning history, changes to the nature of artisanal work and its organisation, and the way in which training relates to practice. The research aimed to provide intelligence on how artisanal work is understood in workplaces in different occupations and sectors. Three main findings contain insights for a skills planning mechanism.

1. **Changes to artisanal skilling systems and labour markets:** It is impossible to discuss TVET policy and the current characteristics of the artisanal system without considering the way in which the economy was organised around industrialisation. It is critical to acknowledge the complexity of the historical processes and the power that the associated racialised and gendered discourses continue to hold over the artisanal system, influencing who chooses to enter into training. It is equally critical to evaluate the macro-economic realities and possible trajectories as parameters for a consideration of desirable and possible interventions. *Thus, for skills planning, we need to determine not only how many artisans the labour market requires, but also how and where the formal and informal labour markets in specific sectors are able to absorb new artisan labour market entrants, at what rate and with which required skills.*
2. **Changes to the nature of artisanal work:** There is a wide range of changes to the nature of artisanal work that theoretically and practically are perceived to expand or impact on the occupational scope of practice. Three artisanal trades undergoing different facets of change were investigated. One is a new and emerging multidisciplinary field of practice recently recognised as an artisanal trade (mechatronics in the automotive sector), the other a traditional artisanal trade having to function in new and more technology driven work contexts (electricians in the mining sector), and the third a high-status artisanal trade spanning at least two traditional fields of practice (millwrights in the metals sector).

We adopted the lens of 'boundaries' between professions and occupations or between occupational categories, to examine these changes. The evidence suggests that, although the traditional occupational structure is under pressure, it remains largely intact. However, it was clear that, for new and emerging fields of practice such as mechatronics, the occupational structure is not yet as firmly established. This holds implications for planning for skills and occupations in newer fields of work and practice, which

would not easily correspond to current occupational classification and ranking systems. For new and emerging fields of practice, pre-emptive engagement with occupational classifications is required, to ensure an accurate understanding of education and training entry requirements and labour market transition possibilities after the completion of such training.

3. **Changes to the relation between artisanal work and training:** Investigations into the nature of changes to artisanal work at the micro level of the workplace, curriculum and knowledge base of training, were conducted in trades in four industry sectors at the cutting edge of local as well as international product and market growth: confectionary baker in the hospitality sector, boat builder and repairer in the boatbuilding sector, mechatronics technician in the engineering sector, and camera assistant in the film sector. Three main trends were identified:

- The increasing standardisation of work;
- The coding of work routines into universally benchmarked standard operating procedures; and
- A constant drive towards product/service innovation.

These trends result in the simultaneous upskilling and down-skilling of artisanal work in relation to sectoral labour markets, in various ways. *The investigation highlights that, without recognition of the different labour process permutations found in any one trade, an inevitable gap arises between the expertise demanded in the workplace, and the knowledge and skills coded into a curriculum.*

Insights for artisanal skills planning: While occupational classification facilitates and eases planning, it might be a very poor reflection of the reality of work. These studies contribute by providing feedback into the skills planning mechanism, as they have the potential to capture historical, present and future labour market conditions in a dynamic way. This could promote better alignment between work and skills planning:

- *It illustrates the macro-economic realities and the historical underpinnings of the country's skills development system, which can uncover the reasons for continued blockages for entry into artisan training, as well as highlight the parameters for a consideration of desirable and possible skills planning interventions;*
- *It highlights the characteristics of the occupational milieu to refine skills planning interventions, as these prescribe the extent to which international demand translates to the national and sectoral labour markets; and*
- *It clarifies the relationship between the demands of intermediate-level work and the education, training and development provisioning and available qualifications*

Acronyms

ATR	
DBE	Department of Basic Education
DHA	Department of Home Affairs
DHET	Department of Higher Education and Training
DPME	Department of Performance Monitoring
HEMIS	Higher Education Management Information System
HETMIS	Higher Education and Training Management Information System
HSRC	Human Sciences Research Council
LMIP	Labour Market Intelligence Partnership
LMIS	Labour Market Intelligence System
MEMSA	Macro-economic Model of South Africa
MTBPS	Medium Term Budget Policy Statement
PSET	Post-school Education and Training
PSPPD	Programme to Support Pro-Poor Development
QLFS	Quarterly Labour Force Survey
SETA	Sector Education and Training Authority
SKA	Square Kilometre Array
SPU	Skills Planning Unit
TVE	Training and Vocational Education
TVET	Training and Vocational Education and Training
WSP	Workplace Skills Plans



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