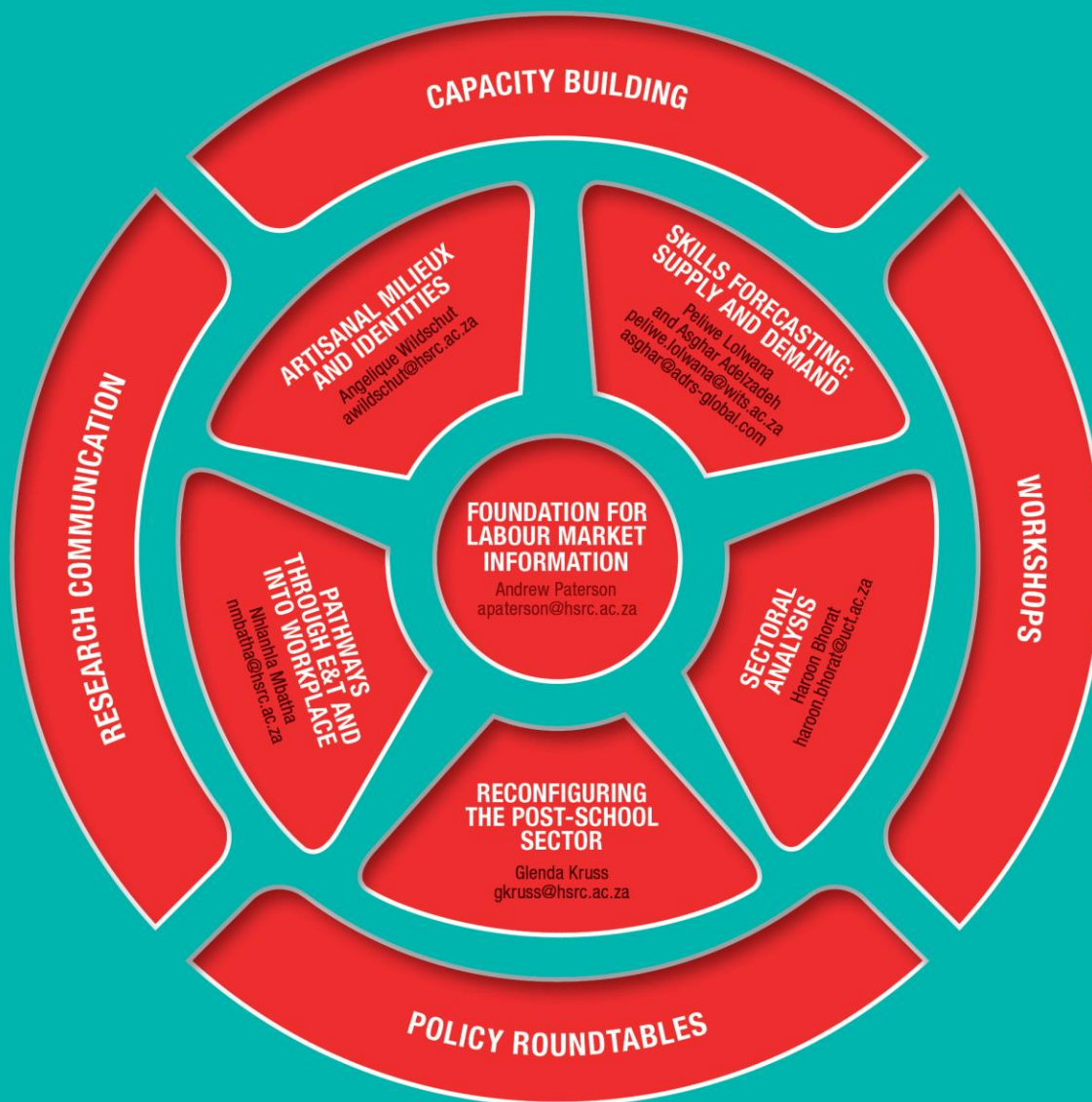


Curriculum responsiveness and student employability in VET: Preliminary findings from three case studies

HSRC
28 October 2014



Outline

- Employability and Responsiveness: Opening up the debate
- Theme 4: Project 2 – an overview
- Case Study 1: Sugar: a sector perspective
- Case Study 2: Engineering: a provider perspective
- Case Study 3: Earth cc: a firm perspective
- Cross cutting themes
- Implications for policy and practice

Employability and Employability Skills

- Shift in focus from employment to employability linked to shifts in economy and nature of work
- Focuses on the 'product' of the system
- Based on needs of employers
- Often becomes a check list of attributes



Employability and Capability



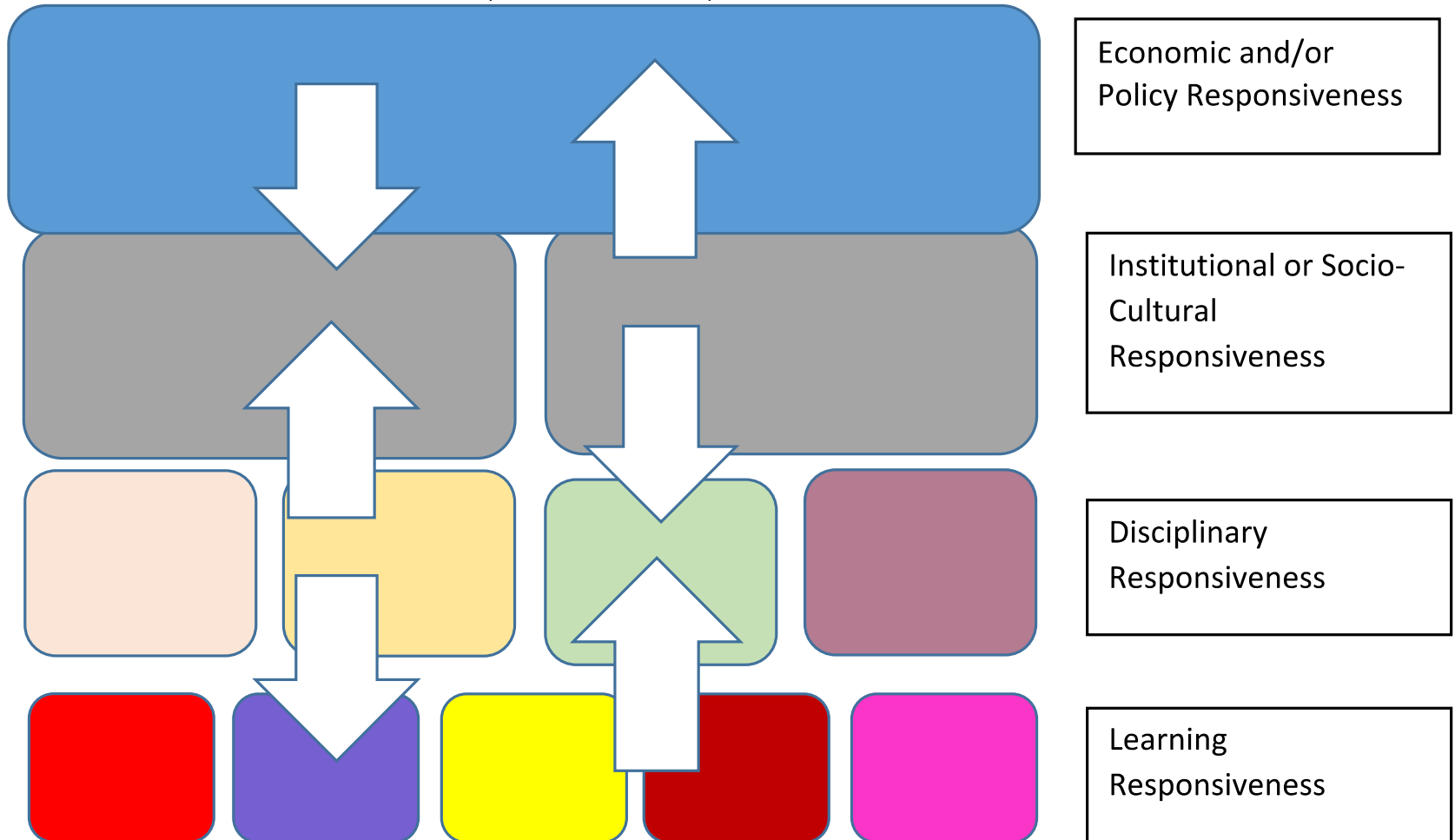
- *Well-being achievement*: this is an assessment of a person's state of being rather than the worth of what they might be doing. Different functionings or *sets of doings and beings* make up the set of evaluative criteria.
- *Agency achievement*: this is understood as an evaluation of the extent to which a person has succeeded or failed in attaining his or her goals. Here, the space of functionings available to a person is considered. An important variable in the set is a person's standard of living.
- *Well-being freedom*: This refers to the degree of freedom actualised in a person's ability to 'live well and be well' (Sen, 1993, p. 39).
- *Agency freedom*: The freedom to choose from a range of options.

Responsiveness and Curriculum Responsiveness

- Challenge posed to education system/institution and educators
- Most often understood in terms of responding to the needs of employers
 - Curriculum viewed as outdated, standards not appropriate, key general skills not taught, educators out of touch.
- Lack of responsiveness results in students not being employable

Curriculum responsiveness is a concept that insists that we study all of its apparent dimensions – the economic, the socio-cultural, the programmatic, the individual – simultaneously. There can be no doubt that the various realities they refer to articulate with each other and constitute affordances and constraints for each other (Moll 2004 p. 8).

A Stratified model of curriculum responsiveness. Adapted from Moll



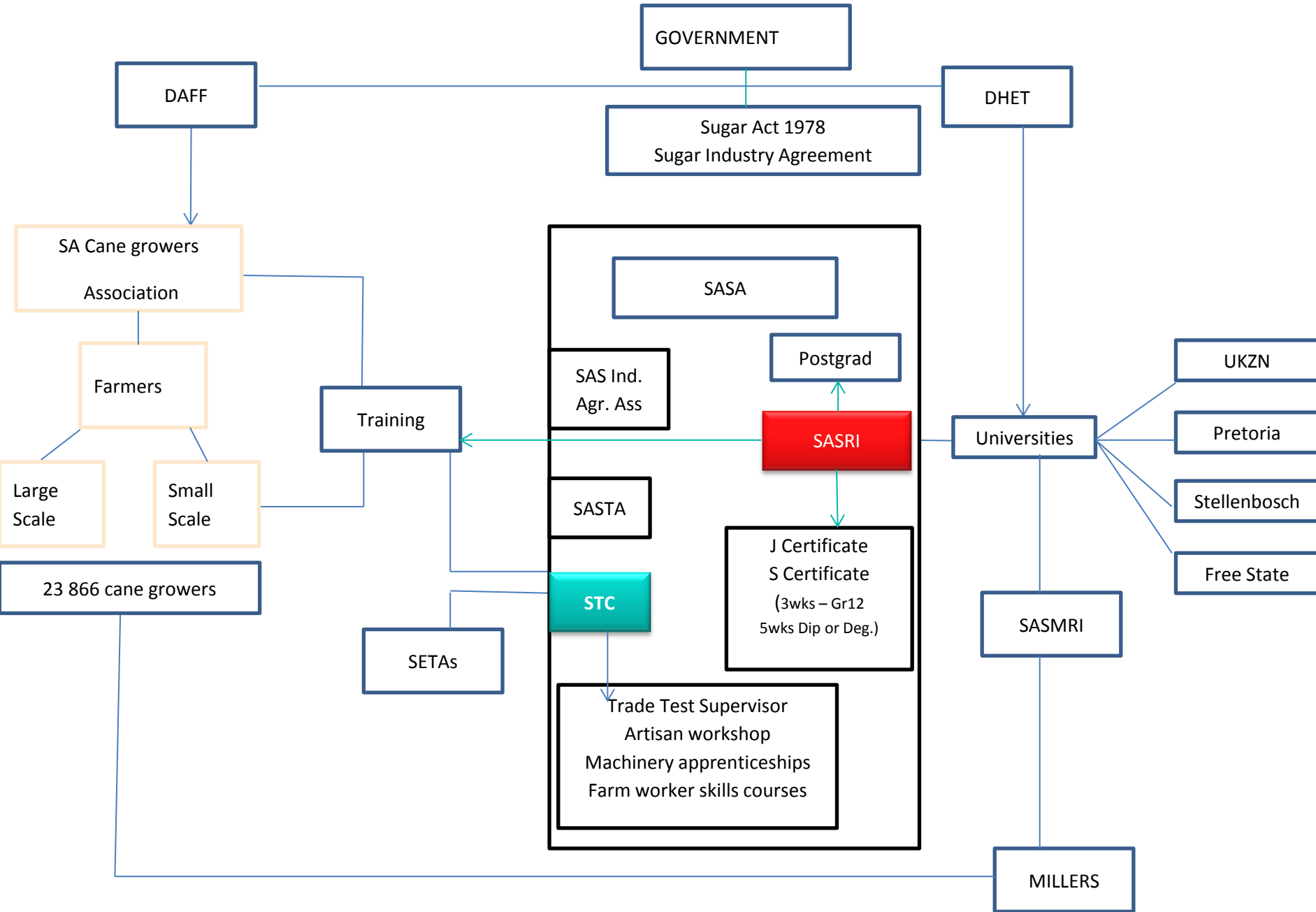
Response Factors

Education providers need to respond to a range of factors:

- Policy requirements
 - Regulatory frameworks
 - Funding mechanisms
 - Targets and future needs
- Employer expectations
 - Short term
 - Longer term
- Social and environmental concerns
- Institutional
 - Budget
 - Capacity
 - Infrastructure
 - Organisational culture
- Individual and cohorts of learners
- Knowledge
 - Discipline
 - Field of practice

Case Study 1

A sectoral perspective: the sugar training system



Sugar Training System

Entity	Course	Linkages	Comments
SASRI	Post-doc/PhD	Universities	Co supervision with SASRI scientists; access to research assistants; housing on campus
SASRI	Hons/Masters internship	Universities	1 year internship programme
SASRI	Junior and Senior Certificate	No formal recognition by SAQA	Non accredited programme providing basic introduction to all aspects of the farming process. Internationally sought after qualification
SASRI	Skills training	Department of Agriculture extension officers	Linked directly to the system of extension
STC	Skills training	Various companies and government agencies	
STC	Artisan training	SETAs	Various qualifications that lead toward the trade test

MSc and PhD Bursary Research Programme (2015)



The Institute

As primary provider of agro-technical expertise to the South African sugar industry, the South African Sugarcane Research Institute (SASRI) delivers diverse research and development (R&D) outcomes to the industry, including: (a) pertinent and robust agricultural solutions, products and services; (b) novel and improved in-house technologies to enhance the scope and quality of service provision; and (c) innovations to support industry strategic initiatives, particularly those pertaining to sustainability. To support and promote innovation in these key R&D areas, SASRI hosts a dynamic post-graduate student and post-doctoral researcher programme in conjunction with several leading South African universities, including the University of KwaZulu-Natal, University of Pretoria, University of the Free State and Stellenbosch University.

Information for 2015 Post-graduate Students

Opportunity	Discipline	Reference	Project Title	Project Description
MSc	Plant Breeding	00VI01A	Family selection for sugarcane yield and determination of selection	Family selection provides the potential to improve gains for quantitative traits such as cane yield at early selection stages. Families can be replicated while individual genotypes cannot because of limited planting material as well as the large numbers involved at early stages. With family selection, superior clones will only be selected from the elite families where a greater chance of identifying superior genotypes exists. The data used for family selection can also be used to evaluate and identify superior parents for use in future crossing. Therefore, a greater understanding of the potential of family selection is important for unlocking the potential gains that can be achieved the early stages. The objectives of this study is to determine family effects and family gains for yield and quality traits, compare family and individual selection parameters, and evaluate effectiveness of parent evaluation among Midlands breeding programmes.
MSc	Plant Breeding	00VI01B	Evaluating genotype by environmental interaction and its implications for the coastal short cycle regional programmes	Genotype by environment interaction (GxE) is known to significantly influence variety development by confounding genetic values in trials. When GxE influence is known, it can be used to increase the efficiency of identifying superior genotypes for specific environments. GxE defines the expression of traits in different environments such as soil types, agro-climatic conditions and crop management as represented by trial sites. The coastal short cycle high yield potential is based at the SASRI Empangeni Research Station and the average yield potential is based at SASRI Gingindlovu Research Station. The advanced genotypes from these programmes are combined in advanced variety trials. The objectives of this study is to determine the existence and magnitudes of genotype by environment interaction, to evaluate the impact of combining genotypes from these programmes in the final stage testing, evaluate realised gains over time and determine potential strategies for optimising these programs to enhance the identification of superior genotypes.

Competitive bursaries and on-site accommodation in student residences. Further information on the South African sugar industry, the South African Sugar Association and the SASRI R&D programme is available at www.sasa.org.za.

Employer responsiveness



“We get told by the Department of Higher Education what to do, when to do, how to do. Obviously there’s a tight interface between the operation, in other words, the training operation and the milling requirement, so if the curriculum says we need x, y and z and Mill says we need x, y and z , but we also need a, b and c, we will provide a, b and c within that curriculum, because that’s what our customers want”

- Shukela Training Centre respondent

Social Responsiveness

*“Ja, we, what happened is two years ago, the Industry realised that **there is quite a lot of land reform** ... people who were getting land from **restitution**, and others who were **coming from the land reform programme** and they decided that to bring these in because these farmers have been producing sugar cane. **So, we commissioned a study, got a consultant from outside, to look at the requirements ... of these new clients ... in terms of training needs** and then looked at what the Industry was providing in terms of training support and then **identifying the gaps** and now we are at the beginning of **implementing a project to bridge** ... those gaps so that we’re providing the [51.36] **because there are different clients** from ... the large scale growers in terms of need.”*

‘Field’ Responsiveness

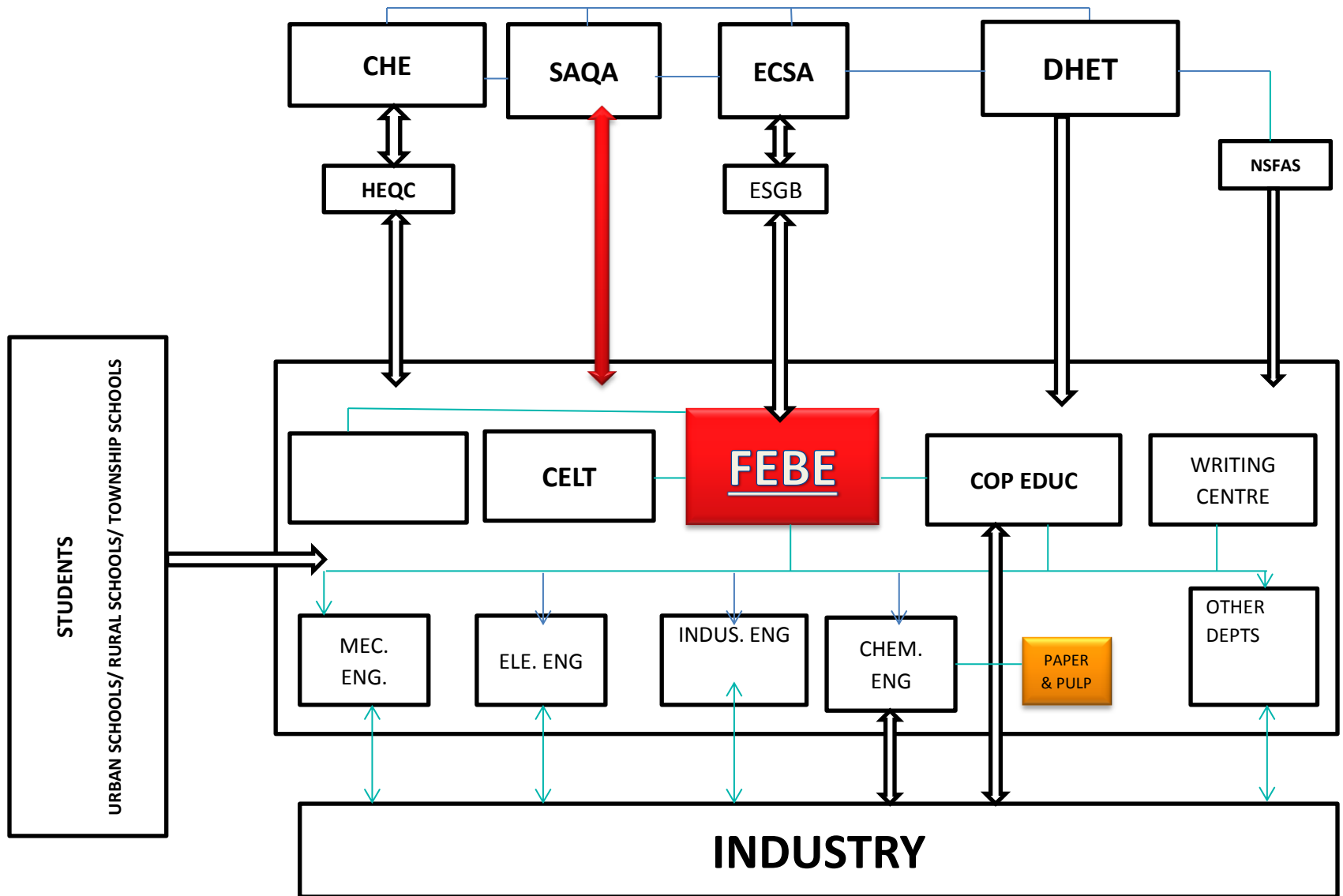
“We do Electro-pneumatics. Electro-pneumatics has no reflection whatsoever in trade test it is not part of the curriculum towards trade test, but your Sugar Industry, all you Packaging Industries, all that, use electro-pneumatics, so it’s something that’s ended up in the course and it’s been there for fifteen, sixteen, seventeen years, very popular, it stays within ... course. We do it as part of our curriculum, because it was needs driven and it’s in there”

Learning responsiveness

*“From group to group **learners are different**. Um, you might get a group of learners that have... shall I put it this way, learners that have really taken on the trade, because they wanted, not because it’s a job.... and you get another group that are very much plodders, um, they took on a job and whether it was electrician or fitter it doesn’t matter, they took on a job and you’ve really got to push them to get through every module and the problem with that is sometimes they’ll finish phase one and they’ll pass it. But when they come back for phase two, you have this slight retention problem, because their interest is not as good as it was, **so you’ve got to do a little bit of a refresher for people like that** and you can move forward.”*

Case Study 2

A Provider Perspective: Engineering at a UoT



Case Study 3

A Firm Perspective: Earth cc Equipment

- Focus from cradle...
 - Involved in ECD
- In company
 - Apprenticeship
- Linkages
 - Universities
 - FET Colleges

Emerging Issues across the cases

Curriculum: Knowledge issues

- Private providers work with national curricula as a minimum set of requirements and are able to bolt on sections in response to employer needs
- Standardised curricula need to have flexibility for additions
- Distinguish between academic education (pre-vocational) and industry/occupation specific knowledge.

Learner Responsiveness

- Need to balance learner needs with industry expectations
- Need to take a life course view of learner needs
- Curriculum needs to be viewed as a continuity that pays particular attention to transitions

Employers and Education providers need to take a system wide and pipeline perspective on skills supply

Curriculum: Temporal issues

- Responsive curricula vary the time frames depending on needs
 - 10 weeks, 5 weeks, 2 weeks, 3 years
 - Tension between this and standardised notional study hours
- Responsive curricula vary pacing dependent on learner needs

Work integrated learning

- WIL works exceptionally well when driven by the employer
- WIL creates serious problems for education providers that are not embedded in the work environment
- Enrolment targets are in tension with WIL requirements
- Placing and managing all students in traditional models of WIL is an unrealistic expectation under current models

Staffing



- Work experience is key to remaining responsive
- Mechanisms for keeping educators and practitioners connected need to be resourced
- Focus on qualifications and research in HEIs (with funding and rankings based on this) is steering the system away from a focus on teaching and practice based knowledge

Conclusion

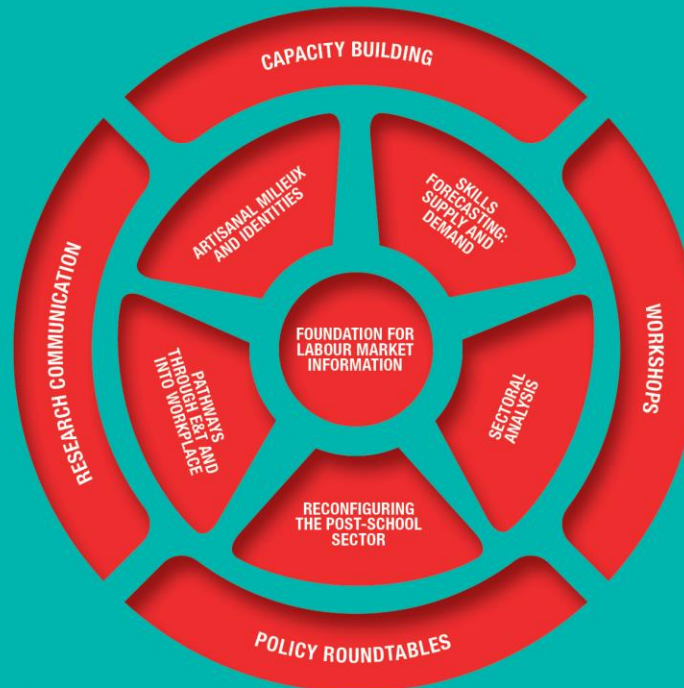
- Sectoral, provider and firm level system perspectives each offer insights into best practice, risks and blockages in the system
 - Clarifying functions is key to maximising impact
- Focusing on the liminal spaces where transitions (societal, institutional, individual) occur is critical for dealing with student success
- Our understanding of curriculum needs to be expanded to include a focus on the prior and post qualification/training learning

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