

# **NQF Review – redefining qualifications which have an occupational purpose**

**Qualifications, occupations, learning programmes  
Regulatory framework, relationships,  
learnerships and other concepts**

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# **NQF Review – redefining qualifications which have an occupational purpose**

## **Qualifications, occupations, learning programmes**

### **Regulatory framework, relationships, learnerships and other concepts**

#### **Abstract**

The NQF review process in the form of the Study Team Report (2002), the Consultative Document from the Ministers of Labour and Education (2003) and the draft policy document on the Higher Education Qualifications Framework (2004) have forced a rethink on the conceptualisation and design of occupational qualifications and associated unit standards.

At the centre of the debates lies the principle of integrating education and training within a single framework.

This paper discusses some of the issues and proposes a number of likely shifts in the way occupational qualifications are conceptualised and designed. In particular the paper will address the role and nature of knowledge in the qualifications and unit standards, the relationship between occupations and qualifications, and some options in improving the integration of education and training.

#### **Note**

For reasons related to the content I have deliberately not created a formal paper. This paper is more in the nature of a provocation to get people thinking and a manifesto in defence of the rights, status and parity of esteem of those who learn by working.

This is a working paper and many of the concepts have not been fully developed.

#### **Background**

The following documents have shaped the landscape we are operating in at the moment

- 1994: NTSI
- 1995: SAQA Act
- (1997: Higher Education Act)
- 1998: NSB and ETQA regulations
- (1998: FET Act)
- 2002: Study Team Report
- 2003: Consultative Document
- 2004: Draft Higher Education Qualifications Framework

After the SAQA Act and the regulations of 1998 we thought we had an integrated qualifications framework for learning achievements.

The reality is that we didn't – and don't. The Higher Qualifications Framework (while still a draft) creates a fundamental shift, a crevasse in the NQF glacier. There is no longer a "T" for training in those proposals. Work is considered something of a lower order. The Framework builds on the notion that SETAs should only operate in the lower levels of the NQF, up to level 4 (in rare instances, 6).

While there is provision in the proposals for qualifications with an occupational focus, these are essentially only formative qualifications which may provide entry to occupations. Furthermore, the only access to the Higher Education Band is through the FET Certificate and only the FETC obtained through the formal schooling sector will be recognised. It is based on curriculum statements and not on unit standards.

The assumption that the NQF level 4 qualifications based on unit standards and obtained in industry (even if we include credits for a second language) will provide access to institutions of higher education is wrong. (We need to begin preparing learners for this.)

Whatever the final policy decisions by the Ministers of Labour and Education with regard to the NQF, the qualifications landscape has hardened and we need to examine very carefully what we mean by qualifications.

While the HEQF talks of being 'qualified in' a discipline, in most SETAs we work with the concept of being 'qualified to' practice a trade, occupation or profession.

The reality is that we have a divide between the education sector and the labour market.

How do we bridge it?

Clearly, if we are to bridge it, we need to have a willing partner. But even without that willing partner there are still a number of things we can do to prepare for this partnership.

This paper deals with some of these issues.

## **SETAs interest in qualifications**

The SETA interest is in qualifications which reflect the learning needs of those active in their sectors. This means the trades, occupations and professions that drive economic activities in the various sectors.

The concept of occupation was embedded in all that we did, but beginning with the Study Team report it became clear that this concept was foreign to the education sector and did not constitute 'real' learning. But a quick spin through the legislation and the regulations shows that it is there, deeply embedded.

## **Legislative Landscape**

### **SAQA Act**

The objectives of the National Qualifications Framework are to-

- a. create an integrated national framework for learning achievements;
- b. facilitate access to, and mobility and progression within education, training and **career paths**;
- c. enhance the quality of education and training;

- d. accelerate the redress of past unfair discrimination in education, training and employment opportunities; and thereby
- e. contribute to the **full personal development of each learner** and the **social and economic development** of the nation at large.

## NSB regulations

### Definitions

"**applied competence**" means the ability to put into **practice** in the **relevant context** the learning outcomes acquired in obtaining a qualification;

### Outcomes

"**outcomes**" means the **contextually** demonstrated **end-products** of the learning process;

"**exit level outcomes**" means the outcomes to be achieved by a qualifying learner at the point at which he or she leaves the programme leading to a qualification;

"**specific outcomes**" means **contextually demonstrated knowledge, skills and values** which support one or more critical outcomes;

"**critical outcomes**" means those generic outcomes which inform all teaching and learning, and "critical cross-field education and training outcomes" has a corresponding meaning;

### Qualifications

8 (1) A qualification shall-

- a. **represent a planned combination of learning outcomes which has a defined purpose or purposes, and which is intended to provide qualifying learners with applied competence and a basis for further learning;**
- b. add value to the qualifying learner ...
- c. provide benefits to society and the economy...
- d. **comply with the objectives of the National Qualifications Framework contained in section 2 of the Act; ≥**
- e. have **both specific and critical cross-field outcomes** which promote life-long learning;
- f. where applicable, be **internationally comparable**;
- g. incorporate **integrated assessment** appropriately to ensure that the purpose of the qualification is achieved, and such assessment shall use a range of formative and summative assessment methods such as portfolios, simulations, work-place assessments, written and oral examinations; and
- h. indicate in the rules governing the award of the qualification that the qualification may be achieved in whole or in part through the **recognition of prior learning**, which concept includes but is not limited to learning outcomes achieved through formal, informal and non-formal learning and work experience.

### Assignment of levels to standards and qualifications

- 5. (1) The assignment of levels to standards, other components of qualifications and qualifications shall occur as follows:
  - a. ...
  - b. The **proposers** of unit standards-based qualifications **shall construct**, through appropriate rules of combination of selected unit standards registered at different levels, **qualifications which have exit level outcomes that** are a function both of the **particular component standards used**, and of a **process of integrating the overall outcome**, again considered as reflecting **the extent** (on a scale of 1 to 8 as contemplated in regulation 3) to **which knowledge, skills and values** in a sub-field **have been acquired** and the **critical outcomes incorporated**, into the **assessable performance**.

For each qualification develop exit level outcomes that

1. are a function of the chosen unit standards
2. are a process in integrating in the assessable performance
3. on a scale of 1 – 8, the extent to which:
  - a. knowledge skills and values acquired
  - b. critical outcomes incorporated

## Conclusions

The key concept is:

Integrated assessment of assessable performance = applied competence (ability to put into practice in a relevant context the learning outcomes acquired in a qualification).

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## Skills Development Act

### ACT

To provide an institutional framework to devise and implement national, sector and workplace strategies to develop and improve the skills of the South African workforce;

to integrate those strategies within the National Qualifications Framework contemplated in the South African Qualifications Authority Act, 1995;

**to provide for learnerships that lead to recognised occupational qualifications; ...**

16. A SETA may establish a learnership if-

- (a) the learnership consists of a structured learning component;
- (b) the learnership includes practical work experience of a specified nature and duration;
- (c) the learnership would lead to a qualification registered by the South African Qualifications Authority and related to an occupation; and
- (d) the intended learner-ship is registered with the Director-General in the prescribed manner.

### Skills programmes

20. (1) For the purposes of this Chapter, a “skills programme” means a skills 35 programme that-

- (a) is **occupationally based**;
- (b) when completed, will constitute a credit towards a qualification registered in
- (c) terms of the National Qualifications Framework as defined in section 1 of the
- (d) South African Qualifications Authority Act; 40
- (e) uses training providers referred to in section 17( 1 )(c); or
- (f) complies with the prescribed requirements.

(2) Any person that has developed a skills programme may apply to-

- (a) (a) a SETA with jurisdiction for a grant: or
- (b) (h) the Director-General for a subsidy.

## Conclusions

1. Learnerships and skills programmes are particular types of learning programmes.
2. Occupation is not defined in the Skills Development Act.

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## Occupational competence

What is occupational competence? Outside of the NQF the definition would go on the following lines:

"Being able to perform 'whole' work roles, to the standards expected in employment, in real working environments." (Department for Education and Employment DfEE, UK 1989, cited by Jasper Associates, 2004)

A provider definition might be slightly different, along the lines of:

To prepare the student to assume the responsibilities and accountabilities that the occupation recognises and to prepare the student to apply knowledge and skills to meet the needs of the occupation.

This is the essential conceptual difference between the education sector and the world of work.

In terms of the NSB regulations, however, occupational competence is expressed as:

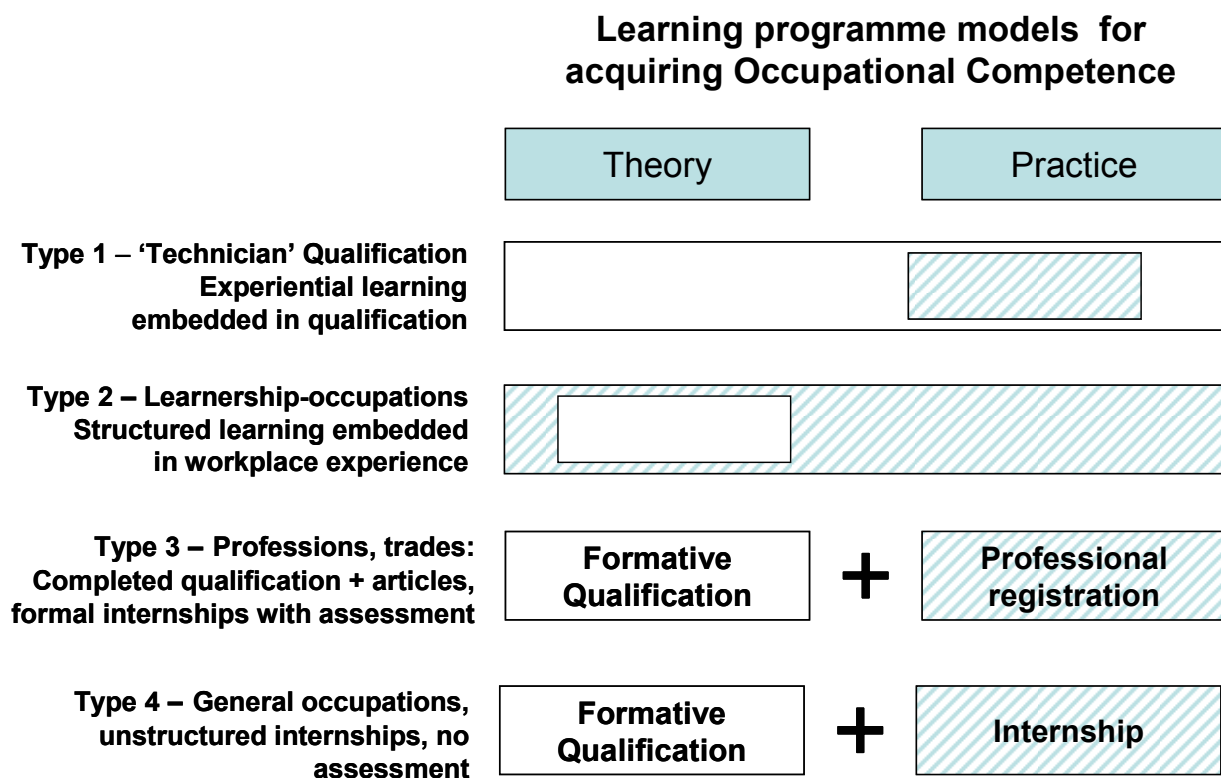
"**applied competence**" means the ability to put into practice in the relevant context the learning outcomes acquired in obtaining a qualification

One relevant context would be a trade, occupation or profession (hereafter 'occupation' stands for all three). The assessable performance would then be based on the practice of an occupation in an occupationally relevant context.

The relevant context for an occupation is the world of work.

What sort of learning programmes lead to occupational competence?

### Models for acquiring occupational competence

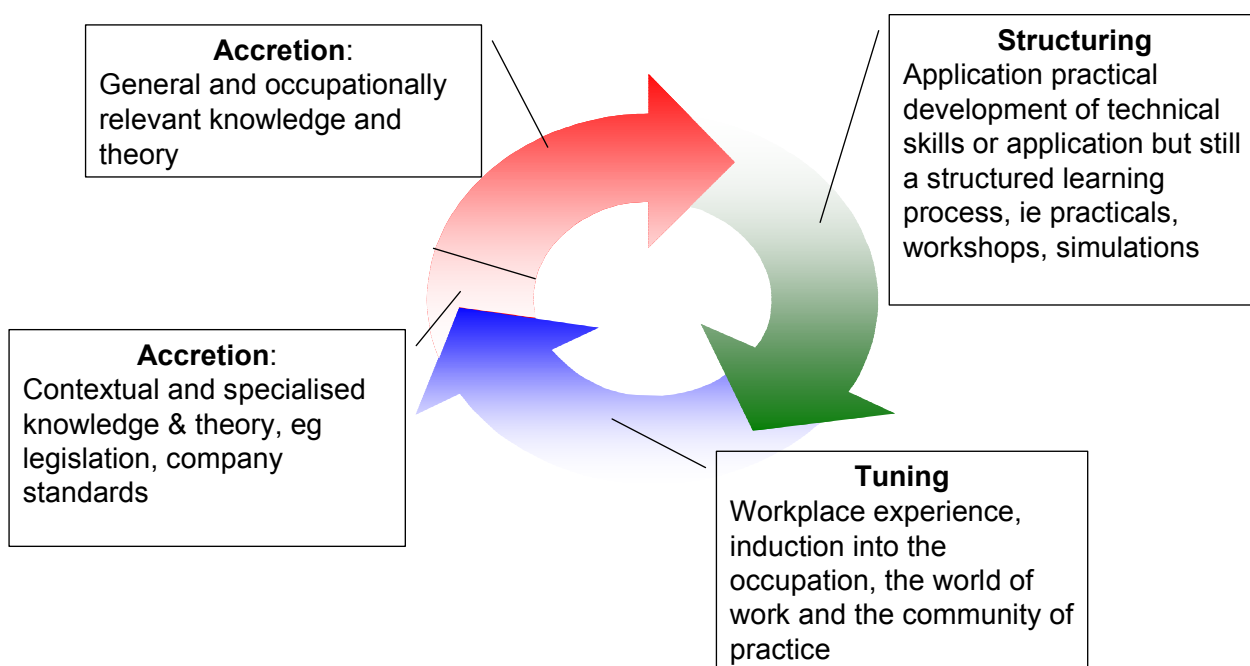


### Three modes of learning

Acquisition of occupational competence, however, generally requires three modes of learning. Rumelhart and Norman's (1978) tri-modal theory of learning proposes that essentially there are three modes of learning:

- accretion (adding new knowledge to existing memory)
- structuring (forming new conceptual structures or schema)
- tuning (adjusting knowledge to a specific task usually through practice).

Tuning is the slowest form of learning and accounts for expert performance.<sup>1</sup> It is the process of turning espoused theory into an actual theory-in-use or 'what I do' vs 'what I say I do' (Argyris, et al 1985).



**Note:** concept substitution is a dangerous cognitive activity. During a recent presentation some members of the audience immediately substituted concepts in the following way:

Accretion	Fundamental
Structuring	Core
Tuning	Elective

This is NOT correct. Each unit standard actually contains elements of each. A better linkage is the following, though even this is still problematic, since the one represents learning modes while the other represents types of learning outcome.

Accretion	Essential embedded knowledge
Structuring	Critical outcomes Assessment criteria
Tuning	Specific outcomes

<sup>1</sup> Rumelhart and Norman also discuss 'restructuring' which is really reflection.

	Assessment criteria
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## Importance of knowledge

Many, if not most of the occupational qualifications developed by SGBs, have underplayed the value of knowledge in the unit standards. In order to ensure progression and mobility for learners in the world of work, they need to have a requisite level of 'theory' otherwise, as happened in the past, they will hit glass ceilings. It's not just the theory that is important, but also the cognitive skills which link to the theory, eg symbolic thinking and reasoning, organising information, developing reading and writing skills, etc.

To help SGBs do that, I proposed a knowledge taxonomy in a recent paper delivered at the Q-Africa 2004 conference

"In the context of unit standards and the NQF, the part played by essential embedded knowledge has not been sufficiently acknowledged or reflected in unit standards. The knowledge category is, however, crucial to the development of applied competence and learning processes. A systematic analysis and capturing of the essential embedded knowledge related to a specific set of activities provides a platform to improve the linking of knowledge and action, to transform teaching and learning practices and to improve the value of assessment.

To be systematic the analysis and capturing process needs to be guided by a knowledge taxonomy as well as a set of knowledge categories."

This taxonomy consists of 11 categories:

1.	Names, functions, locations	Objects, concepts or phenomena, entities, components
2.	Attributes, descriptions, characteristics, properties	Features or qualities that characterise the objects, etc, in 1 above or differentiate them from other similar ones
3.	Purpose	The meaning of or reason for objects, activities, etc
4.	Processes, events, incidents	Planned or structured ordering of activities, occurrences
5.	Problems, causes and effects, implications	Knowledge which underpins and derives from problem solving, responsibility and accountability
6.	Procedures, techniques	Formalised ways of carrying out tasks and activities; different methods of performing tasks and activities
7.	Sensory cues	Signals or signs relating to conditions or changes in the environment; seldom found in text books but passed on by experts or acquired through experience
8.	Regulations, legislation, agreements, policies, standards	The legal or agreed framework which guides or circumscribes what we do
9.	Theory (rules, principles,	Explanations or proposals that try to explain the

	laws)	physical or natural world
10.	Categories	Ways of grouping, ordering or classifying information
11.	Relationships, networks, systems	Components of systems thinking; links between elements within a larger view; the way in which things work together

What is clear from this taxonomy is that essential embedded knowledge is neither just the theory, nor just a knowledge of the rules and standards in the workplace. It is a complex listing of input knowledge as well as the knowledge acquired by doing. The knowledge becomes embedded in the person so that one can speak of embodied knowledge: “it is embodied knowledge that guides the surgeon’s knife at the moment of the first cut”.

Learning programmes and the assessment process really need to pay greater attention to the acquisition and demonstration of this embodied knowledge. It lies at the heart of occupational competence.

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## Learning programmes

### SAQA Definition:

Combination of courses, modules or units of learning (learning materials and methodology) by which learners can achieve the learning outcomes for a qualification.

### SAQA Policy

Learning programme means the sequential learning activities

- associated with curriculum implementation,
- leading to the achievement of a particular qualification or part qualification.

A learning programme can be identified with a

- cluster of qualifications,
- a single qualification or
- a part qualification.

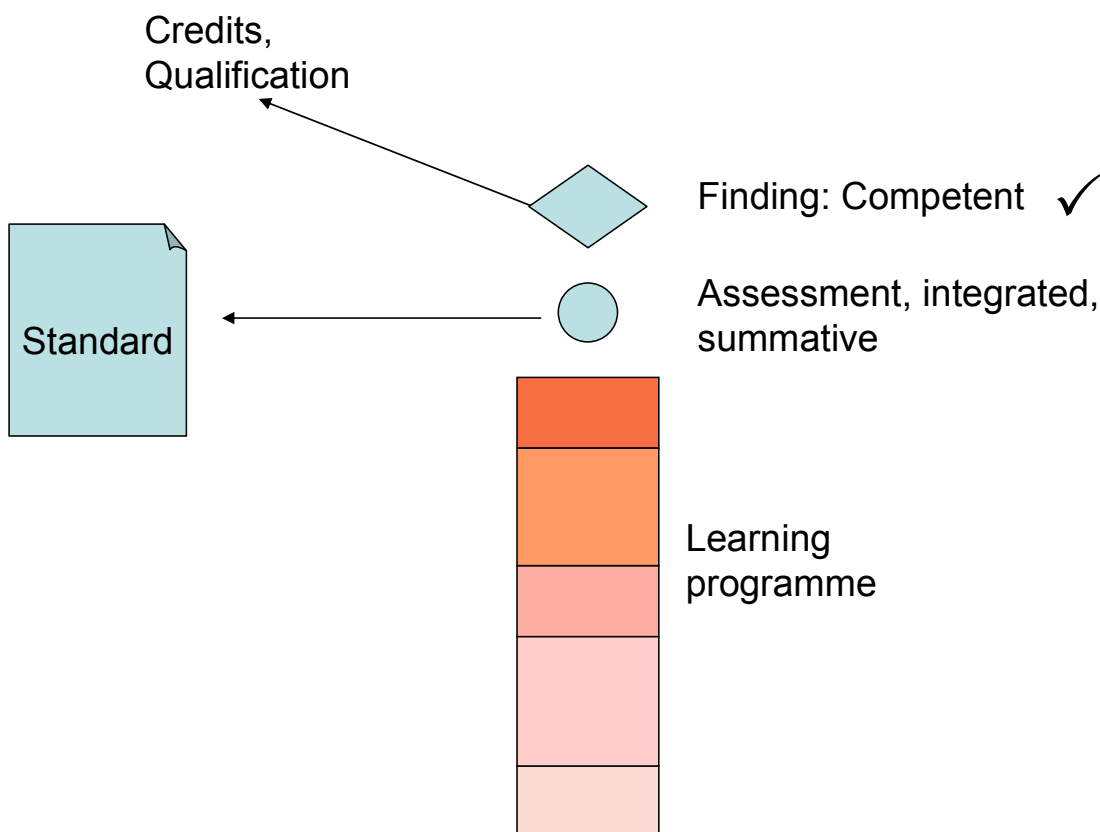
A particular qualification may be achieved through different learning programmes that meet

- the exit level outcomes and associated assessment criteria of the qualification.

### Outcomes means:

Contextually demonstrated end products of the learning process, which includes skills, knowledge and values and how the critical cross-field outcomes have been integrated.

Learning programmes should therefore have a focus on the application of the skills, knowledge and values in the occupational context. To stop short of this means that the learning has only been preparatory.



### Mapping Occupations to the NQF

The following table illustrates how occupations and related concepts can be linked to the NQF.

SAQA	Occupations
<b>Qualification</b>	<b>Occupational competence</b>
Purpose of qualification	Purpose of occupation
Exit level outcomes + assessment criteria	Occupational roles + accepted standards of performance (including values)
Core unit standards	Skills related to the performance of the occupational role
Elective unit standards	Choices or specialised skills in the occupational context
Fundamental unit standards	Skills fundamental to the learning process
<b>Unit standard</b>	<b>Skill</b>
Purpose of unit standard	Purpose of skill
Specific outcomes	Activities related to the skill – cognitive, psychomotor, social

	Also Key performance areas (but holistic not just job tasks)
Assessment criteria	Key performance indicators
Essential embedded knowledge	Personal knowledge or understanding which guides the activity
Critical outcomes	Generic abilities, key competencies

The implications are:

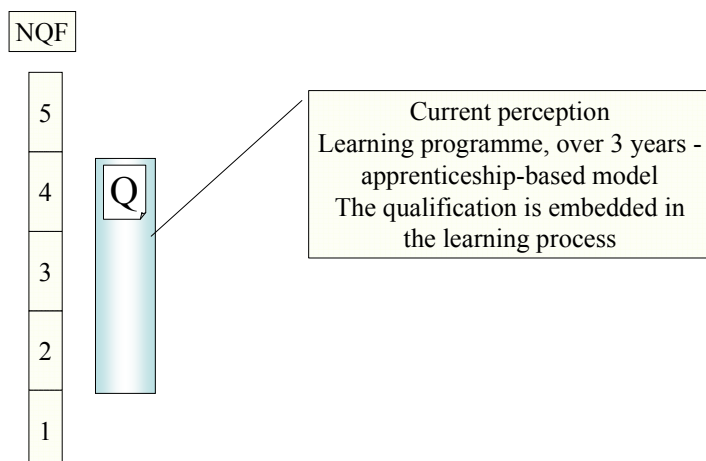
- We need to think more in terms of occupations and ‘qualified to’
- We must not be misled by SAQA policy on qualifications titles and education-type qualifications which focus on ‘qualified in’.
- ‘Qualified to’ is an integration of a range of knowledge and skills, not just the discipline-specific knowledge and some general cognitive skills
- ‘Qualified to’ requires the acquisition of all the critical outcomes in an occupational context: the ability to solve real life problems while working with other people goes beyond whatever education and training can achieve on their own.

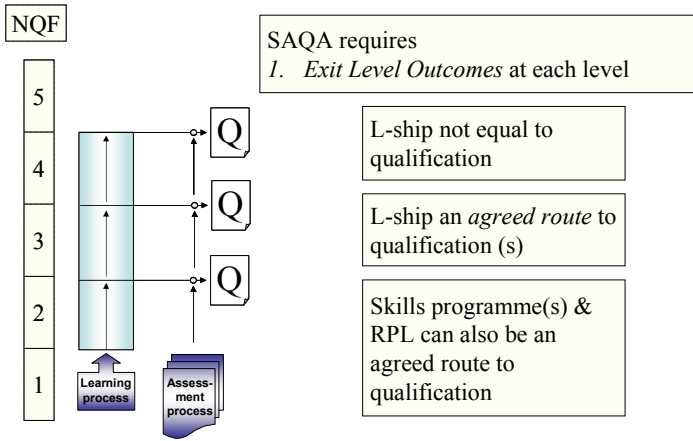
But by starting with the occupational role we can start to shape more relevant qualifications. This in turn should lead to more relevant learning programmes (especially if we take into account the tri-modal learning) and more relevant assessments where we focus on the embedded knowledge.

### Occupational progressions

In combining the notion of progression and the 8 (10) level Framework, etc, we need to consider occupational progression. We need to improve access and mobility for people in the learning system and the labour market.

This means we should think not in terms of qualifications but in terms of qualifications frameworks. Qualifications Frameworks represent access, progression and mobility within defined areas or occupational clusters.





**Mapping qualifications and career pathways**

By linking occupations to qualifications we arrive at a working definition for developing qualifications:

A qualification represents sets of similar skills, knowledge and values which can be learned in a number of different contexts and is linked to one or more foundational qualifications as well as being preparation for further progression or new career or occupational options.

This means qualifications need to be clustered and mapped. Such clustering of occupations and qualifications can lead to the following type of map:

Level	Qualifications at each level
4	Nat Cert in Construction & Building Supervision
3	Occ 1    Occ 2    Trade 1    Trade 2
2	NC in Construction    NC in Building
1	Nat Cert in Construction & Building

Diamond Matrix

*Note: this was a proposal and doesn't represent a real example*

The trade is not just the single qualification represented here at level 3: it is the culmination of learning programmes, assessment and the acquisition of applied competence at levels 1 and 2 as well. By creating qualifications in this way we can start to create flexibility and options for learners, workplaces and providers.

**Conclusion**

While we must still hope for the survival of a single integrated framework of qualifications, we do still need to focus on what it means to create relevant qualifications for the world of work.

To satisfy the demands of the labour market we need to think carefully about the nature and structure of qualifications, how they reflect occupational competence and how the design of appropriate learning programmes plays an important role in allowing learners to achieve such competence.

The proposals in this paper are:

1. that one looks more carefully at the occupational roles
2. that one develops qualifications that reflect that learners are 'qualified to' perform the occupational roles
3. that one is more specific about the type and nature of the essential embedded knowledge that the learner must acquire and embed in his or her 'assessable performance', and finally
4. that one rethinks the structure of learning programmes to reflect three specific learning modalities of accretion, structuring and tuning.

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