A REVIEW OF INTERNATIONAL AND NATIONAL DEVELOPMENTS IN THE USE OF QUALIFICATIONS FRAMEWORKS

Foreword

National Qualification Frameworks (NQF) offer common sets of principles and references. They provide the opportunity to make informed decisions on the relevance and value of qualifications. They make it possible for users to decide whether or not a qualification opens up opportunities both in the labour market and for further learning.

Approaches to achieving coherence and clarity through NQF vary from country to country. In some they are mainly vocational frameworks aimed at facilitating links between the labour market and vocational education. In others, they are more encompassing and attempt to provide a set of principles that embrace qualifications from all sectors of education.

The Copenhagen Process and the way it strives to increase the portability of qualifications has pushed the issue of qualification frameworks upwards on European education and training policy agendas. Recent European developments have added urgency to international coordination in this field. With the European Neighbourhood Policy (ENP) in mind, stimulating the debate on qualification frameworks in our neighbouring countries is a logical extension of internal EU activity.

The ETF helps partner countries to become acquainted with the European and wider international discussions and experiences with national qualification frameworks, the different approaches that exist and the practical implications of developing and implementing national qualification frameworks.

Experience shows that frameworks have the potential to improve the formal recognition of knowledge and skills that individuals have acquired and that - because of their implications - they may also act as a driving force behind broader education and training reform.

In and by themselves, however, national qualification frameworks cannot guarantee that high quality vocational education and training is being offered. Awareness of the possible roles and understanding of the risks and opportunities that national qualification frameworks offer will contribute to taking well founded policy decisions.

This report by Mike Coles of the Qualification and Curriculum Authority (QCA) in the UK reviews the most recent international experiences with developing National Qualification Frameworks. His review shows how pervasive the issue has become all over the world. Many countries have realised that they need to do more than just work on the updating of standards of individual programmes or occupational profiles. But the report also illustrates all of the concerns mentioned above. In fact, only rarely have National Qualification Frameworks been able to realise their potential and the reasons for this situation are many.

The message is clear though, Frameworks are potentially a powerful lever for vocational education and training reform within countries but because of that they are not easy to be developed, nor are they in themselves a solution to all problems that a country may experience with their vocational education systems. A word of caution therefore is in place: policy makers should think carefully if they wish to go for national qualification frameworks in the first place. If they decide to do so they will have to invest in developing a framework that fits in the specific context of their own country based on the resources that are available. They would also have to understand that frameworks are not set in stone but need continuous further development and adaptation to changing environments. For all these decisions learning from the experiences from other countries will be necessary. Indeed, increasingly, as also educational systems and labour markets are becoming international, there is a need to secure some kind of transparency and comparability between national frameworks.

Mike Coles' report provides a comprehensive and detailed overview of some of the key issues that will need to be taken into account by national policy makers in deciding how to move forward in the reform of their vocational education and training systems.

Peter Grootings, ETF, April 2006

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Policy makers and their advisers see qualifications frameworks as a way of securing political, social and economic benefits. This paper is a review of the nature of different kinds of qualification framework and suggests how the form of a framework can be designed so that it functions in ways that are likely to deliver the desired benefits.

It is important to note that reliable literature on the impact of qualification frameworks is thin on the ground and that comparative evaluation is very difficult[1]. It is therefore necessary to depend on descriptive literature on framework design, purpose and functioning. This brings complications as this evidence often comes from official bodies and is focussed on intentions and ideas rather than results, furthermore it is often highly context dependent.

The paper begins with a broad survey of the current use of frameworks and how they are expected to work. Such is the complexity of this field that it is necessary to offer some clarifications of the meaning of concepts associated with frameworks. The review then begins by considering international frameworks; this is followed by a discussion of broad approaches to the design of national frameworks that includes some examples. Technical aspects of national qualifications framework (NQF) design are then considered in some detail. Qualifications frameworks do not stand alone as instruments of policy and it is useful to consider some other aspects of policy that sometimes interact with the functioning of frameworks. Aside from all the technical considerations it is important to look at the requirements to manage and finance the introduction and operation of frameworks. Qualifications frameworks are often seen as a catalyst for wider systemic change and some examples of where this has been intended are outlined. The paper then considers some ideas about how the development of a framework in one country or employment sector can inform and be informed by developments in other countries and sectors. In a final section the paper attempts to compare goals for frameworks to the limited evidence of the impact of such frameworks. A summary of the various national positions with regard to frameworks at the time of writing (November 2005) is appended as an annex.

Qualifications frameworks as a tool for reform

The notion of a qualifications framework that shows how qualifications relate to one another is not new. For centuries the trade organisations in many countries have exercised control over the right to practice a trade and how progression in skills is defined and managed. Universities have also set down common patterns of recognising progress within higher academic learning, this pattern can be considered a framework of qualifications. What is new is the interest of governments in developing overarching frameworks that incorporate qualifications that represent the outcomes of school, work and higher education. These overarching frameworks or National Qualifications Frameworks (NQFs) show a kind of national identity in terms of qualifications and qualification levels in the country. NQFs2 can exclude qualifications from different parts of the worlds of work or learning or they can be inclusive of all qualifications that can be achieved in the country. Sometimes it is not clear if a country has a national qualifications framework. Even where no explicit diagram of qualifications is published, or when there is no explicit centrally determined relationship between qualifications at different levels of achievement or from different parts of the education and training system, it is possible that there exists a kind of framework that is based on common understandings and customs developed over time. Even with this diversity of types of NQF it is still possible to summarise the aims of national frameworks as follows.

1. **To establish national standards of knowledge, skills and wider competences.** This could include: defining the outcomes of a national curriculum; the process by which skills needs of sectors and the national economy are identified and classified; the description of national levels of education

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[1] Recently there has been a sequence of independently written reports on NQF development. See Young (2003) (2005), Raffe (2003) and Blackmuir (2003). For information of different frameworks see (Coles and Oates, 2004 - annex) and (OECD, 2006 – chapter 3 annex).

[2] A National Qualification Framework is therefore taken as a classification system that has its governance located at national level, often directly or indirectly, designed, financed, monitored and managed by government. Employment sectors may be dominant contributors to this NQF or have a more independent or peripheral role.

and training. It could also cover, albeit slightly distanced from the NQF, the introduction of competence based standards for occupations and with this the development of competence based training and qualifications.

2. **To promote the quality of education and training provision.** By regulating the approval of qualifications to the framework it is possible to define acceptable national standards. These quality standards might reference the capacity of the body issuing the qualification to deliver learning, assess achievements and issue certificates. Sometimes these 'approved' qualifications are favoured in national funding regimes.

3. **To provide a system of coordination and for comparing qualifications by relating qualifications to each other.** By creating a means by which qualifications can be assigned to a national level of qualification users (individuals, providers of learning and those recruiting for jobs and learning programmes) are expected have increased confidence in the national qualification system. Under this aim the framework is used to harmonise or rationalise qualifications systems that are sometimes overlapping and compete for the attention of providers and learners.

4. **To promote and maintain procedures for access to learning, transfer of learning and progression in learning.** A framework of qualifications can make clear the entry points for learning for qualification and where a qualification could lead in terms of higher or wider learning. Transfer of learning from one qualification to another is also possible, especially if some kind of convention for recognising units of learning (or credits) is in place. Some NQFs have a credit-based system as an integral part of the framework. Through achieving this aim a qualifications framework supports lifelong learning.

These four aims suggest that the introduction of an NQF leads to something entirely new and innovative in the qualifications system. Experience in countries with frameworks suggest that it is more likely that the NQF has emerged in response to the need to bring additional order to existing provision of qualifications, usually because it has become too complex for users. Qualification systems seem to evolve quite naturally into more complex blends of qualifications and agencies and seem to develop additional functions. Incremental development of parts of the qualification system can, over time, lead to an amorphous series of sub-systems that cannot be fully understood as a whole and cannot be used effectively. When it is judged that a qualification system is too complex for its users, qualifications frameworks are often seen as the way to resolve the diversity of sub-systems into something more easily understood. Thus the development of a framework can be regarded as something as simple as a national organiser or classifier that builds on existing infrastructure and has no reforming dimension at all.

However, most frameworks have purposes that go beyond simple classification. Some frameworks are an important social construct – providing the basis for such things as strategic planning of education and training, meeting labour market needs, structuring opportunities for individuals to enter and progress in the labour market. Frameworks can also form the basis of wage bargaining systems.

Qualifications frameworks are also seen as levers of change, for example if there is a desire to make the qualifications system more demand-led as opposed to supply side driven, it is possible that development of a NQF becomes a means to this end. By favouring enterprise and employee interests over those of providing institutions in the design and management of an NQF, the demand side is strengthened. NQFs can require from providers the definition of levels of learning, the specification of qualification types and make other demands on the bodies who define, deliver and award qualifications. Therefore through these means and others NQFs can have a deep penetration into the workings of the qualification system. Reform for a wide range purposes becomes possible as a result of this penetration, for example improving the identification of skills/qualification needs, changing the influence of stakeholders, raising standards, improving quality, improving participation in learning, improving efficiency and changing practice in education and training delivery. The effects of NQFs are potentially so powerful that the management of the reform process to achieve desired effects (without unintended consequences) is usually of central importance. Consequently the implementation of a qualifications framework often requires the establishment of dedicated agencies to manage, monitor and evaluate the NQF and support further reform. At this stage, with qualifications frameworks leading to reform of the qualifications system, it is useful to distinguish these two terms.

Definitions

The following definitions are drawn from work carried out in the OECD activity on qualifications systems and lifelong learning (OECD, 2006).

Qualifications are the basis of frameworks and should be understood as a property of a person *when a competent body determines that they have learned knowledge and skills and wider competences to specified standards. This standard of learning is confirmed by means of an assessment process or the successful completion of a course of study. Learning and assessment for a qualification can take place through a programme of study and/or work place experience. A qualification confers official recognition of value in the labour market and in further education and training. It can also be a legal entitlement for a person to practice a trade.*

The process of **assessment** that leads to a qualification is also usefully expanded. *Learning is usually assessed against standards or criteria by an expert, or a group of experts, who follow established procedures. Achievement in learning is validated when the assessment of learning is approved or confirmed by relevant legislative and professional authorities as having met predetermined criteria and that a standard assessment procedure was followed. Qualification is a formal outcome of an accreditation or validation process. A qualification confers official recognition of value in the labour market and in further education and training. A certificate is official document that records qualification and the validation of learning.*

Having established the form of a qualification it is clear that the **qualifications system** *is complex and can involve standards, criteria for assessment and assessment processes, official bodies, institutional infrastructure, curricula and programme design, funding regimes and many more contextual features dependent on the country and cultural setting. This broad panoply of policies, procedures and institutions is part of a qualifications system. We can define a qualifications system as all aspects of a country's activity that result in the recognition of learning. These systems include the means of developing and operationalising national or regional policy on qualifications, institutional arrangements, quality assurance processes, assessment and awarding processes, skills recognition and other mechanisms that link education and training to the labour market and civil society. Qualifications systems may be more or less integrated and coherent.*

A **qualifications framework** is just one feature of a qualifications system although it is often a clear and prominent statement of the way qualifications systems interface with learners, providers and recruiters. A qualifications framework is *an instrument for the development and classification of qualifications according to a set of criteria for levels of learning achieved. This set of criteria may be implicit in the qualifications descriptors themselves or made explicit in the form of a set of level descriptors. The scope of frameworks may be comprehensive of all learning achievement and pathways or may be confined to a particular sector for example initial education, adult education and training or an occupational area. Some frameworks may have more design elements and a tighter structure than others; some may have a legal basis whereas others represent a consensus of views of social partners. All qualifications frameworks, however, establish a basis for improving the quality, accessibility, linkages and public or labour market recognition of qualifications within a country and internationally.*

Qualifications frameworks are most commonly expressed as diagrams, and it is the diagram that is frequently referred to as the framework. Such a diagram is an abstraction; a representation of real arrangements and three main types of understanding of the meaning of a framework exists according to the stakeholder position - diagram, concept and quality assurance process. In the UK job applicants and students see it as a diagram; employers, teachers and careers advisers see it as a concept and regulators and awarding bodies see it as a quality assurance process (Coles, 2000).

International activity

There is increasing activity from international agencies in the area of qualifications frameworks: the Organisation for Economic Cooperation and Development (OECD), the International Labour Office (ILO), the World Bank (WB) and the European Union (EU) have current NQF projects. Countries with explicit frameworks (e.g. the countries of the UK, Ireland, Australia, New Zealand and South Africa) are regularly engaged with other countries and are, in effect, supporting a general international movement towards the development of qualifications framework. Whilst some countries had experience of

establishing comparative levels for qualifications for some time (e.g. France) it was not until 1985 that the first significant attempt to develop an international framework appeared (Cedefop, 2001). Cedefop developed a five level framework for vocational qualifications to facilitate the comparability of qualifications in the context of an anticipated growth in the mobility of labour. These levels had little impact and EU countries made little effort to align their vocational qualifications systems with these levels.

More recently the European Commission has been proposing the development of a European Qualifications Framework[3]. The response to this initiative has been much more positive than that for the CEDEFOP levels (see Annex 1 for a list of current country developments in terms of NQFs). The EQF proposal is intended to operate internationally as a meta framework and is not intended to act as a blueprint for frameworks in member states of the EU. However the proposal suggests that the most effective way for nations to articulate with the EQF is through a NQF, so in this way at least the EQF proposals are seeking change in many countries in the way national qualifications are represented. Countries without an NQF are asked to consider setting up such a framework. Early evidence suggests that this request is receiving a positive response (e.g. Czech Republic, Germany, Greece, Lithuania, Norway, Portugal, Slovakia). An interesting point about this 'meta' approach is the extent to which the architecture of the EQF will influence directly the nascent NQFs. For example the EQF proposals define qualification levels with descriptors based on learning outcomes. It may be more difficult to match to the EQF levels if approaches developed in countries and employment sectors do not use learning outcomes in their national framework. The same is true of the dimensions of competence (knowledge, skills and wider competences) the descriptors cover these dimensions at every level. It is possible that the classification of competence under these headings will be a strong influence on countries. There is also the eight level structure proposed for the EQF, the existence of these eight levels provide an incentive for countries to harmonise with the proposal – either by design of a framework of eight levels or by stretching fewer existing levels over the eight level range or by condensing more levels into just eight. Many of the NQFs being planned have eight levels.

Since 2001 the OECD have been conducting a large-scale activity (involving 25 countries) on optimising lifelong learning by means reforms that involve qualifications systems. Twenty mechanisms for changing qualifications systems have been identified which could improve the amount, quality, distribution or efficiency of lifelong learning. Amongst these mechanisms is the introduction of a qualification framework. When all 20 mechanisms are matched to the most common current national policies for improving lifelong learning the creation of a qualifications framework (together with recognition of non formal and informal learning and introduction of credit transfer) emerges as a potentially powerful mechanism for enabling change. This has led the OECD to initiate further work into how such mechanisms are working in countries.

The use of qualification frameworks in improving lifelong learning was of particular interest to a group of countries that formed an OECD Thematic Group to explore the area in more depth. The report of this group[4] suggests that countries introduce qualifications frameworks in order to:

■ better match qualifications with knowledge, skills and competences and to better relate qualifications to occupational (and broader labour market) needs;

■ bring coherence to sub-systems of qualifications, e.g., higher education, adult learning, school awards, and in particular vocational education and training qualifications, by creating an overarching framework for them;

■ support life-long learning (by opening up access, targeting investments and recognising non-formal and informal learning); and

■ facilitate the involvement of political actors and stakeholders, especially in vocational education and training.

The International Labour Office has also been active in supporting discussions about the potential of qualifications frameworks. The Conclusions of the General Discussion on Human Resources Training and Development, at the International Labour Conference in 2000 state that: the development of

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3   http://europa.eu.int/comm/education/policies/2010/consultations_en.html
4   http://www.oecd.org/document/16/0,2340,en_33873108_33873838_32165840_1_1_1_1,00.html

national qualification frameworks is important for both enterprises and workers as it: *facilitates lifelong learning; helps enterprises match skills demand with supply; and guides individuals in their choice of training and career.* The ILO sees the development of national qualifications frameworks represents one of the main initiatives in addressing the challenges of skills recognition. Two recent publications from the ILO will support innovation in NQF design. The first is a problematising paper (ILO, 2005) which outlines the issues involved in implementing an NQF. The second publication (ILO, 2006) is a manual for introduction of NQFs and includes a summary of technical considerations.

The most widely used international framework is not designed to equate with outcomes of qualification processes. Rather ISCED 97[5] concerns itself with the inputs to education and training provision and defines approximations of levels of learning, content of learning and duration of learning programmes that relate to the many different systems in use across the world. Despite being based on the features of education and training systems ISCED 97 is used as a proxy for qualification levels and many countries seem comfortable with the idea that qualification levels do approximate to the sequence and duration of formal learning programmes.

ISCED 97 also defines *Broad groups and fields of education* that classify the main areas of education and training, for example' one heading is agriculture and under this comes agriculture, forestry and fishery. There are many other such classifications[6] that are widely used to systematise and analyse the labour market, skills needs and education and training provision in countries and employment sectors. These classifications are not directly concerned with levels of learning or outcomes of programmes and are more useful as a tool to be used alongside qualifications frameworks. However some of these occupational and economic activity classifications do, in their detail, refer to levels of education and training in order to clarify what constitutes a particular kind of activity. In some countries the occupational classification (or areas of economic activity) are seen as closely related to the qualifications system. Where this is the case the occupational classifications form the basis for definition of standards or competences that are inevitably hierarchical and often link with qualifications levels. The systems in the UK and New Zealand are classic examples here where, for each occupation, functional analysis leads to standards, which amongst other things, are used to wholly define major occupational qualifications. The latter are then located in the NQF. In some countries the admission of a qualification to the NQF is a regulated process. In the case of the UK the use of occupational standards for defining a national qualification is a fundamental requirement of the admission process for many vocational qualifications.

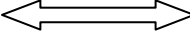# Different approaches to the design of an NQF

The basic architecture of NQFs can be described under a series of dimensions. Table 1 illustrates these dimensions.

It is possible to locate existing NQFs at a point from right to left along the continuum of each dimension in Table 1. It is also possible to combine these dimensions in the design of an NQF. The location of points on each of these dimensions needs to be rationalised with the country's declared purposes of the NQF. For example, in the case of Ireland the NQF was intended to transform the qualifications structures in the different education and training sectors into one coordinated framework with new quality assurance arrangements and a new institutional structure for manage the framework. The goal was to put in place the Irish NQF quickly - within 2 to 3 years. The position of the Irish NQF on each dimension corresponds with these aims. For example it was always intended to be inclusive of the main types of qualification. The management of the implementation and ongoing maintenance is a central function laid down in law. The two newly created qualifications institutions have a regulatory function where they are develop awards based on descriptors defined in the framework. The framework itself is based on learning outcomes that are standards of knowledge, skill and wider competence. Qualifications admitted to the framework do not need to be competency-based but they do have to relate to the criteria for qualification types at specific levels.

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[5] OECD, 1999. *Classifying Educational Programmes, Manual for ISCED-97 Implementation in OECD Countries*, Paris.

[6] See http://europa.eu.int/comm/eurostat/ramon/nomenclatures/index for a useful database of all of these classifications.

Table 1: The design characteristics of NQFs

Main advantages	Design characteristic from……………………………………………….to		Main advantages
Coherence across qualifications Genuine national system	**inclusive of all qualifications**	**partial coverage of qualifications**	Implementation easier Piloting possible Staged development strategy
System wide reform possible Linkage with other national policies	**designed and managed by central agency**	**organic development by stakeholders**	Encourages harmonisation Stakeholder buy-in Allows regional development
Policy coordination Quality assurance	**regulatory framework for assuring quality**	**classification of all qualifications**	Communication with stakeholders
Powerful authority for framework Sanctions for non compliance	**legal basis**	**voluntary basis**	Ownwership secured Stakeholders work together
Builds on existing learning infrastructure	**descriptors composed of learning inputs**	**descriptors composed of learning outputs**	Independent of institutional structure Linkage with external frameworks
Relevance across all parts of education and training possible Linkage with external frameworks	**level defined by descriptor**	**level defined by national reference qualifications**	Builds on existing infrastructure Confidence in new framework higher
Close relationship to labour market Linkage better between education and work	**qualifications based on competency standards**	**qualifications based on units of learning or achievement**	Continues traditions of skills supply Builds on existing infrastructure

Clearly the national context influences the selection of a position on each dimension with some choices being untenable and others being an automatic choice. For example in federal states the buy-in from regions is essential and development of a legal basis through negotiation and consensus building can be a fundamental requirement. States where social partners have a strong role in qualification design, management and evaluation will be guided towards voluntary arrangements rather than centralist imposition. Some other factors influencing the choice of NQF characteristics are expanded in table 2.

Table 2: factors influencing decisions on dimensions of frameworks

Factor	Reason
Scale of policy for reform	The potential 'reach' of large-scale reforms allows the building blocks of qualifications systems (such as providing institutions, needs analysis processes, assessment practice and the basic structure of qualifications) to be part of the programme of change. A large-scale reform need not necessarily be centralist and top-down.
Breadth of policy for reform	The introduction or reform of an NQF can be viewed as one part of a much broader set of reforms. More importantly these reforms are often, by design, interdependent in terms of bringing about the goals of reform. The blend of the set of reforms will, at least to some extent, determine the shape and role of the NQF.
Financing	The scale of financing and the period of guaranteed funding influences the extent of what might be achieved.
Timescale of reform	Reforms in qualifications systems suffer a significant time lag where change has to be managed in a way that preserves the rights and status of those who are in the process of having competences recognised. Changes also work their way through the system linearly (for example curriculum reform, qualification reform, recognition process reform and finally use of qualification for advancement).
The status of stakeholders	In countries where social partners are responsible for managing the competent bodies involved in the qualification system the process of consultation and adaptation will be required.
The extent of diversity of existing high currency qualifications	Finding common ground for establishing a framework will be more difficult if there is great diversity of qualifications on offer and little chance of consensus on benchmarks for standards. Equally the existence of a highly valued qualification can reduce the scope for qualification reform ('do not change something that works well').
Status of quality assurance processes	In credentialist countries where standards is a high profile policy matter, the selection of a framework design will be dominated by the definition of quality assurance procedures.
The need to relate to external developments	Where inward or outward mobility of labour is commonplace, the need to use structures

Factor	Reason
	that can articulate with different kinds of framework will be important. Using learning outcomes in qualification design and level descriptors is an example.
The capacity of central agencies to manage change processes	The reform of qualifications systems through the introduction of an NQF will require support from central bodies. Where responsible bodies have legal status the response to change maybe slowed by necessary legal processes.
The clarity of the image of the framework	Policymakers need the public perception of the framework to be positive. The image needs to be clear, easily understood, and effective as these reflect good management of development processes. The simplicity of the image can reduce the sensitivity of the framework to the complexities of the qualifications system.

The exercise of choice in NQF design is often therefore limited in scope by factors like those in Table 2. Having looked at the architecture of qualifications frameworks from a broad policy perspective it may be useful to look at some of the technical design features that could form part of a NQF.

Technical aspects of NQF development

All NQFs have levels of learning or qualification and most define these levels independently of the national qualifications that are associated with a level. Before considering the levels and descriptors of levels in these 'independent' frameworks it is useful to review NQFs that do not explicitly have these features and are based on qualifications. The Australian qualifications framework (AQF) is a good example. The AQF serves to relate qualifications across the federal states that make up Australia. It does this by defining the characteristics of a common set of qualifications across schools, vocational education and training (VET) and higher education.

These nationally recognised qualification types are shown in table 3.

The important feature here is the absence of explicit reference to levels and the 'hierarchy' of qualifications is defined by the qualifications themselves and not via independent level descriptors. This kind of 'internal' referencing of qualifications has many advantages including using well known qualifications to define a level of learning and reserving the flexibility to develop qualification types independently of others. Many of the characteristics of qualifications frameworks with levels and level descriptors are maintained in this approach, including the coordination function (across Australian states), the opportunity to quality assure qualifications in the framework and to use the NQF as a tool for managing reform of the qualifications and the qualifications system.

Qualifications frameworks without level descriptors do not attempt to relate qualifications of different types across different education and training sectors by reference to common criteria (level descriptors). This means that the sectoral qualification routes have limited overlap and distinctions in qualification types and of learning and volume and demand of learning are maintained. NQFs without level descriptors also have limited use as the benchmark for credit transfer of units of assessment between qualifications of different types.

Table 3 The Australian qualification framework diagram

Schools	Vocational Education and Training	Higher Education
Senior Secondary Certificate of Education	Advanced Diploma Diploma Certificate IV Certificate III Certificate II Certificate I	Doctorate Masters Degree Graduate Diploma Graduate Certificate Bachelor degree Advanced Diploma Diploma

Levels

There is a view that qualifications frameworks like the AQF do in fact have levels. They are not officially expressed as levels but the levels are easily discernable in the table-like image of the AQF. These 'invisible' levels and ones that are explicit such as those in the Scottish Credit and Qualifications Framework (SCQF), form the spine of all qualifications frameworks.

The AQF can be considered to be an *equating* framework and other frameworks with descriptors - *descriptor-based* frameworks. Both are 'theory driven' in that implicit theories can lie behind (i) the assignation of levels to respective qualifications in an equating framework (e.g. this qualification is lower than that one because this one has a higher content of management skills) and (ii) matching qualifications to descriptors (e.g. increasing specialism in technical skills characterises progression at the higher levels of the framework). Most descriptor-based systems do not flag with any precision the theoretical assumptions that underpin them. Most frequently, they have an implicit, eclectic theoretical base, rather than reference to a single theoretical construct such as Bloom's taxonomy (Bloom, 1956) or Jaques' work on occupational hierarchies (Jaques, 1973) or Dreyfus' work on becoming an expert(Dreyfus, 1992). The development of a hierarchy of levels that recognises all kinds of learning for qualification demands some theoretical or descriptive basis that is independent of current forms of qualifications and current education and training infrastructure. An example of the derivation of the number of levels in such an independent framework is described in a report for CEDEFOP on determining the reference levels for VET (Coles and Oates, 2004).

Most frameworks emerge from a consideration of what exists already in the qualifications system. This pragmatic starting point will make it difficult to use any kind of theoretical referencing of levels. Two main characteristics of qualifications systems are commonly used to derive a basic series of levels. The first is the hierarchy of qualifications and the second is infrastructure of the education system. The AQF typifies the first approach (see above) and using the infrastructure of the education system typically leads to levels for:

1. Primary education

2. Lower secondary or compulsory education

3. Upper secondary education

4. Specialist VET leading to qualified worker status

5. Specialist VET leading to expert status

6. Higher education: first degree

7. Higher education: masters degree

8. Higher education: doctorate

Some aspects of education systems are not easily accommodated in such a hierarchy – for example, professional education, short duration VET and programmes of continuing training that are usually developed in employment.

In Europe any framework of levels needs to take account the levels or cycles developed as part of the Bologna process for harmonising higher education across 41 European countries. There are three cycles corresponding to first (Batchelor) degrees, Masters degrees and Doctorates. The three cycles have associated descriptors – the Dublin descriptors (Berg, 2005), which are written as learning outcomes. In most existing qualifications frameworks, including the EQF, these are represented in the three highest levels.

Descriptors

In equating frameworks the guiding principle is how a qualification type relates to other qualification types. There is no reference to independent descriptors. Qualifications that might share little or nothing in common in terms of aims, focus, scope and content can be set at the same NQF level. By contrast, in a descriptor-based framework, qualifications can only be admitted to the same level as a result of meeting a required specification in the form of a descriptor.

There are two main kinds of descriptor – those based on inputs (programme duration, location and types of learning) and those based on outcomes[7] (what the learner knows and can do after a period of learning). Learning outcomes are concerned with the achievements of the learner rather than the intentions of the teacher (expressed in the aims of a module or programme). There is often some confusion between learning outcomes and aims and objectives of programmes and certainly some people regard learning outcomes and programme objectives as the same thing and use the terms synonymously. The main distinction between learning objectives and learning outcomes arises through assessment of achievement. Assessment of achievement of learning objectives can take many forms and can include assessment of achievement across the content of a programme of learning which might include assessment of all objectives or could include assessment of some or most of them depending on the tool of assessment. On the other hand the assessment of learning outcomes will be inclusive of all outcomes and will be based on assessment criteria relating to each learning outcome.

If inputs are used for descriptors the framework is inevitably tied to existing national qualifications structures and this is both an advantage (in implementation) and a disadvantage (no independent reference points). Learning outcomes are seen by many people as the optimal way to define qualifications and qualification levels. There is a long history of the use of learning outcomes although unfortunately this has not led to a common understanding of the meaning of the term. Recently the levels in the proposed EQF have been described in terms of learning outcomes: the main justification being that for all the complexities of education and training systems across the countries in Europe the expression of learning outcomes is the only practical common denominator for all qualifications and qualifications levels. Besides enabling articulation between very different frameworks, using learning outcomes also brings transparency by overcoming institutional conventions and thereby can facilitate mobility and transfer of credits for learning.

As already stated, learning outcomes also allow for the definition of levels that are independent of current features of qualifications systems and can, by being independent, support reform. For example descriptors can be written to show how one field of learning relates to (or supports) another field of learning making the education and training system more transparent and facilitating collaboration

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[7] 'Learning outcomes (are) statements of what a learner knows, understands and is able to demonstrate after a completion of a process of learning. (ECTS Users Guide, 2004)
'Learning outcomes are statements that specify what a learner will know or be able to do as a result of a learning activity. Outcomes are usually expressed as knowledge, skills, or attitudes. (American Association of Law Libraries: http://www.aallnet.org)

between learning institutions. Learning outcomes also make it easier to develop other aspects of education and training, for example curriculum development or improving service delivery.

The specification of learning outcomes will be linked to specific level in a framework. Whilst helping to define levels the relative position of a learning outcome in a framework will also help to clarify the demand of a learning outcome. For example the learning outcome: *can develop creative responses in researching solutions to well defined problems*, could refer to a simple context which is well structured and could be relevant to general learning of a young person or it could refer to a complex situation and be relevant to a high level managerial or technical situations. Hence the level associated with the learning outcome will affect the interpretation. If this descriptor were located at a high level in a NQF it would be clear what kind of interpretation was necessary.

An interesting option for defining level descriptors is to develop a two-tier system. At the top level the descriptors will cover all education and employment sectors and be generic. Under this level sectors are invited to write specific level descriptors that suit the purposes of the sector. These specific descriptors can be easily related to the generic ones. The advantage of this approach is to maintain high levels of relevance in the descriptors for the users. Ownership of reforms is also likely to be stronger because stakeholders have a role in NQF design. One possible drawback is that there may be differences in interpretation of the generic level descriptors by different sectors as they prepare the specific descriptors and this can lead to confusion in meaning of the top-level descriptors.

The creation of learning outcomes needs careful thought. Not only can the amount of detail in a learning outcome vary across qualifications and levels but learning outcomes can also be further divided into different categories of outcomes. The most common sub-divisions are between technical competences and generic outcomes that relate to any and all disciplines e.g. problem solving, information technology, and team working skills. A further issue in writing learning outcomes is that the outcome will have a dependency on context – particularly the context in which it is learned and the context in which it is assessed or evaluated, this issue is covered later in this paper. Over simplification can also be an issue for descriptors built of learning outcomes.
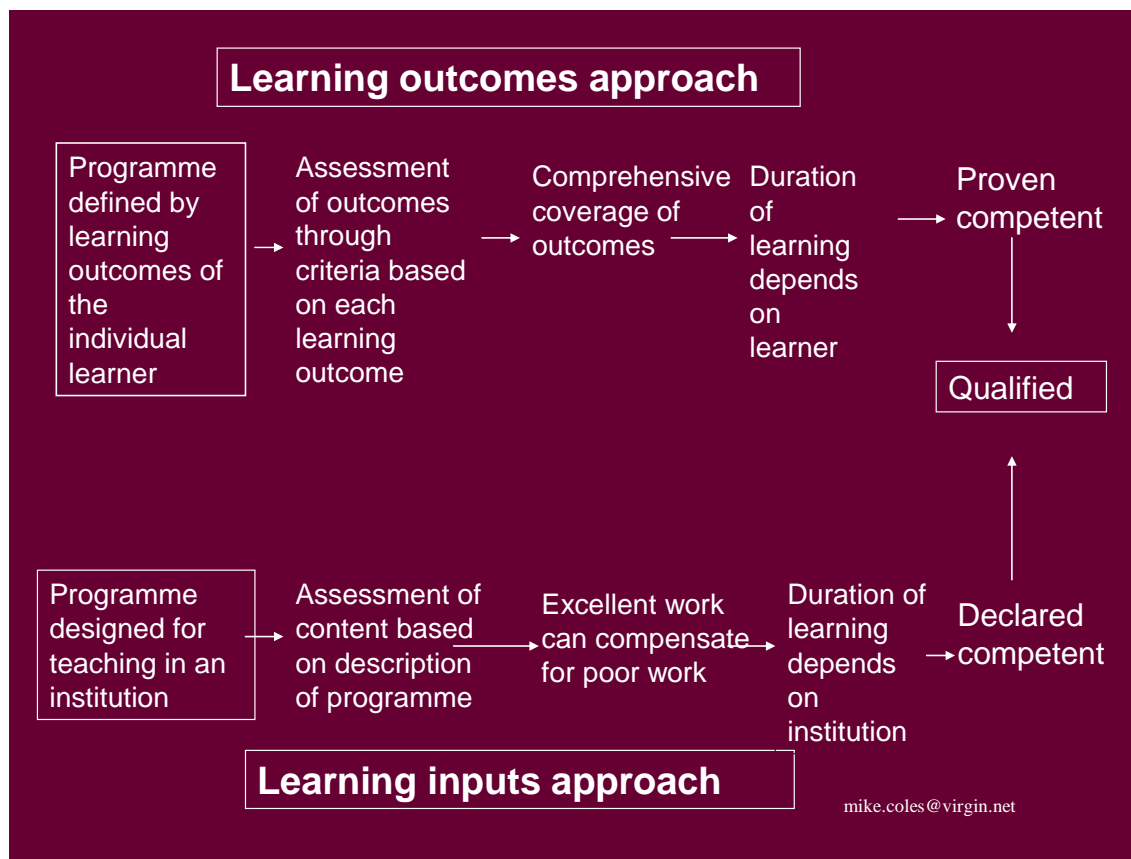
There are some general rules for making descriptors for one level distinct from others, descriptors should be:

■ consistent with external reference points for the framework, for example, referencing to the learning outcomes for major national qualifications such as skilled worker/apprenticeship;

■ sufficiently distinct from the level descriptors from the level below or the level above and show distinct progression from the from the previous level;

■ be based on learning outcomes and expressed as the capability people qualified at a specific level know or can do;

■ stated on positive terms and avoid all statements about what is not admissible in qualifications at the level;

■ concrete and definite in nature and avoid use of words such as 'narrow' and 'good', or cross references such as 'narrower', 'broader' or 'appropriate';

■ jargon free and transparent for the non-expert reader; and

■ as succinct as possible to facilitate clarity of the concept of the level.

Using learning outcomes in a NQF can affect other parts of the education and training system. There are four distinct areas that can be substantially different. Firstly and obviously the definition of learning programmes becomes something aimed at the learner and less of something of interest mainly to teachers. Secondly, because learning outcomes have to be assessed as having been demonstrated (or not) by the learner, the assessment instruments become more criterion referenced than for input based approaches. Thirdly it will be increasingly clear that some learners will already have demonstrated some learning outcomes and have the evidence of the recognition of these outcomes. It follows that the programme of learning will depend on prior achievement and the pace of learning of the students, rather than being determined by factors linked to teaching. Finally when a learner has their learning outcomes validated it is *proven* that they are competent in relation to that outcome. In input driven systems the

learner may be assessed as successful across a programme but not necessarily competent in every area of the programme. The following diagram summarises these differences.

Fig 1: Approaches to learning inputs and to learning outcomes compared

Learning outcomes approach

Programme defined by learning outcomes of the individual learner → Assessment of outcomes through criteria based on each learning outcome → Comprehensive coverage of outcomes → Duration of learning depends on learner → Proven competent → Qualified

Programme designed for teaching in an institution → Assessment of content based on description of programme → Excellent work can compensate for poor work → Duration of learning depends on institution → Declared competent → Qualified

Learning inputs approach

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So what are the benefits of using learning outcomes? In terms of learning programme definition learning outcomes can help to:

- form a comprehensive set of statements of exactly what a learner will have achieved after successful study;

- form a bridge between individuals learning and the sometimes bureaucratic processes of managing qualifications systems;

- increase transparency and comparability of standards between and within qualifications;

- provide a common format for different forms of programme delivery (e.g. distance, work-based, non-formal and experiential learning) and have significant capacity to link vocational educational and training and higher education.

- aid curriculum design by clarifying areas of overlap between modules, programmes and qualifications;

- retain a focus on the key learning purposes of a programme,

- maintain a good relationship between teaching, learning and assessment;

- promote reflection on assessment, and the development of assessment criteria and more effective and varied assessment;

- play a key role nationally and internationally by acting as independent points of reference for establishing and assessing standards;

- benefit employers, higher education institutions and civil society in general by clearly articulating the achievement and attributes associated with particular qualifications;

- internationally, learning outcomes contribute to the mobility of students by facilitating the recognition of their qualifications and improving the transparency of qualifications and thus simplifying credit transfer.

The issue of context

The different classifications of learning outcomes (e.g. knowledge, autonomy and responsibility) can be stated in relatively simple terms. This is advantageous for a common understanding of the learning achievement required. However the achievement of a learning outcome will be dependent on the complexity of the context in which the outcome is learned and in which it is assessed. For example *preparing a 3 course dinner* for a small family at home does not compare with *preparing a 3 course dinner* for a family wedding. The latter will require attention to be paid to the variables within the context that need to be taken into account: the number of variables, their level of interdependency and the extent to which their behaviour under different conditions can be predicted (KWB, 2005).The issue of context cannot be avoided and is understood by some qualifications experts to be at the centre of the difference in demand as learning progresses to higher levels. In other words the capacity to manage learning in more complex situations is the key difference between qualifications at different levels.

NQFs deal with the issue of complexity in context in three ways.

- It is left to the individual qualifications at a particular level to define complexity of the learning context (equating frameworks).

- It is described in a separate, general commentary to a level and acts over all learning outcomes.

- Complexity of context is embedded in as many learning outcomes as possible to provide a signal about the context in which learning has taken place and been assessed.

Competency

It is quite common for literature about qualifications to define what is learned during qualification as knowledge, skills and competencies, therefore implying competencies are something quite distinct from knowledge and skills. Considerable work has been done to clarify the meaning of competence, especially when the word is used in connection with employment. The DeSeCo study for the OECD (Rychen and Salganik, 2003) reviewed the meaning of the concept of competence and developed categorisation of the range of competences. By using this work and examining other published literature, in particular from France, the United Kingdom and the United States of America, the following composite definition is offered.

Competence is an ability that extends beyond the possession of knowledge and skills. It includes the following elements: i) cognitive competence involving the use of theory and concepts, as well as informal tacit knowledge gained experientially; ii) functional competence (skills or know-how), those things that a person should be able to do when they work in a given area; iii) personal competence involving knowing how to conduct oneself in a specific situation; and iv) ethical competence involving the possession of certain personal and professional values.

If competence includes knowledge, skills and specific wider competences - and all these can be described as learning outcomes – what is the difference between a learning outcome and a competence? One view is that there is very little difference. A learning outcome defines a small area of competence, when several learning outcomes are demonstrated some significant, larger area of competence is demonstrated. Another view is that this 'atomic' construction of competences from outcomes is simplistic and there is more to demonstrating competence than the sum of the 'mini competences'. This is discussed in detail below.

Does a learning outcome represent learning that is a minimum requirement for a level? This 'threshold' interpretation of the role of learning outcomes is common in many frameworks, especially those linked

to employment. Another interpretation of the requirement of a learning outcome, which is more common in higher education, is that a level is defined by *typical* learning outcomes. The use of typical learning outcomes is common in NQFs where qualifications are not themselves defined in terms of a comprehensive series of learning outcomes.

The identification and use of elements of competence to define occupations, work roles, training and qualifications developed a strong momentum in the late 1980s. The systematic nature of the process of defining achievements as competences and the clarity of the products – defined national standards – convinced many experts that the approach moved the world of VET and vocational qualifications to a new level of understanding. By ignoring the way any learning was achieved it produced the freedom to focus on what really mattered – the outcomes of learning. A new platform for thinking about learning and work was established: it was now possible for people to examine vocational education and training in a different way by considering competences. However, recently there seems to be a new consensus developing: the concept of competence must pay greater attention to the way learning is structured and enabled. In other words there is some rethinking of the position of competences as being separate from the learning process and acknowledging a link to the process of learning (Oates, 2004). In the field of VET, the well-established processes of *Formation* in France and *Beruf* in Germany, typifies this thinking. There is no single word in English that captures this meaning; usually it is expressed as something important that is gained during a learning programme that makes the learner clearly more competent in their work tasks. The most common explanation of this shortfall in describing how competence is developed beyond a set of learning outcomes is based on the theory of situated cognition, this takes account of the different forms of interaction between an individual and the work or study they engage with.

This shift of understanding has implications for NQFs since the level descriptors in an NQF need to capture this wider process element of education and training, possibly through sensitive definitions of categories of important competences, and acknowledge that they are an important part of the outcomes of many learning programmes.

Having briefly reviewed both the general and technical aspects of NQF design it is necessary to consider some of the constructs that are not necessarily an integral part of an NQF but that are often strongly associated with NQFs.

The effects of NQFs

Qualifications frameworks are used to increase transparency of qualifications systems and especially to show the relationships between different (types of) qualifications. However as stated above the effects of introducing a NQF can have wider effects, for example they can change the way institutions are organised and operate, they can play a part in quality assurance procedures and facilitate credit transfer arrangements. Appreciating and using these broader effects of NQF development requires a systemic view of the ways qualifications are organised and operate. The interdependencies of the parts of the qualifications system need to be understood. A linear approach to policy (i.e. changing this feature so that this feature changes) is likely to prove simplistic.

The main effect of an NQF is the development of linkages between different parts of the education and training system: school education, vocational education (including work-based training) and higher education. This has already been alluded to as a consequence of using generic level descriptors based on learning outcomes. By developing descriptors for each level so that they have relevance for each part of the education and training system and then requiring that the programmes or qualifications processes are associated with an appropriate level in the framework, the relationships become clearer to planners, teachers, learners and users of qualifications such as enterprises and the distinctions more blurred.

However generic descriptors based on learning outcomes are not essential for this process. Whilst they have the potential to facilitate deep discussions of relationships between qualifications from different parts of the education and training system, it is quite possible to define relationships between award types or qualifications, the Irish and Australian NQF experiences are relevant here.

Institutional change

Instutions (schools, colleges and universities) can both define a qualification framework and be defined by one. By means of making the purposes, structure and content of qualifications explicit through associating them with learning outcomes it is possible to see opportunities for one kind of instutution to make contributions to the traditional territory of others – for example schools may be able to develop a stronger role in IVET, or a training programme for higher level technical updating (a supplemetary programme) may be delivered in higher education instead of a VET college. This is not to suggest that the traditional patterns of qualifications programmes are faulty in some way – it simply opens up the possibilities for making more dynamic links between parts of the system which might make decision making by learners a little easier and could increase the efficiency of the system. With increasing use of information and communications technologies in pedagic development (e.g. distance learning, knowledge management) the potential for these kind of inter-instutional links are likely to increase.

The instutions that have mainly management roles in the qualifications system can also be affected by qualification framework development. These instutions include government departments (education and labour), qualifications awarding bodies, quality assurance agencies and funding bodies. It is often the case that social partners have important roles. The manner in which the processes are agreed for setting up and managing a NQF can increase or decrease the influence of different types of stakholder group on the education and trainign system, Two rather obvious examples are worth consideration since they are increasing common in countries where frameworks are being developed. The first example is the tightening of control by government of the qualifications system so that it can be more easliy used in governement led reforms. Countries where centralied control is increasing might want to use the framework to introduce new qualifications routes that provide access to qualification for those social groups who generally are excluded (or exclude themselves from learning for qualifications). The second example is where there is an intentional shift of the balance from the supply side of training to the demand side for competences. The role of employers, employees and their representative bodies could be given a stronger role in system management and the providing instituions a weaker role.

Quality assurance procedures

It is not always the case that a qualifications framework is a tool for quality assurance. However if a NQF includes any criteria or processes for referencing qualifications to a level in the framework then the framework will have some QA function. The New Zealand framework has an explicit QA function where admission of a qualification to the framework is carried out on the basis that the qualification is based on quality standards that are centrally defined. The Scottish Qualifications and Credit Framework (SCQF) has been established by concensus between major qualification bodies. The admission of qualifications to this framework is not as well defined as the case in New Zealand but nevertheless the levels descriptors exert an influence on the necessary quality processes necessary for the award of a qualification at each level.

Some frameworks have associated with them explicit quality assurance processes. For example the NQF in England, Wales and Northern Ireland has centrally agreed quality criteria for both the operations and capacity of the body that awards the qualification and for the qualification types themselves. The proposal for the development of an EQF suggest that the Quality Principles developed for VET as part of the Copenhagen process are explicitly linked to the new reference levels.

When a framework is built on learning outcomes the ways that programmes are described and delivered and how assessments of learning are made become more explicit, they also become more open to scrutiny. Consequently other means of quality assurance become possible since a wider range of stakeholders may be in a position to offer advice on quality.

Credit arrangements

Qualifications frameworks show the relationships between qualifications; they also provide a structure for locating the value of a unit (a small and distinct part of a qualification) at a level. Some frameworks have been specifically designed to allow credit for learning to be related to learning requirements in other qualifications.

The fourth generic aim of NQFs (see above) is to promote and maintain procedures for access to learning, transfer of learning and progression in learning. This is a key aim for developing lifelong learning and the structure of an NQF should enable learners to access learning easily and carry forward some credit for achievement to new jobs and studies. Sometimes the whole qualifications in the NQF may be too large a commitment for a new learner to undertake. It could also be regarded as too large an area of learning to transfer to another qualification when a learner decides to follow a new learning path. Indeed if a learner makes such a decision half way through an existing learning programme it may be difficult for them to change track to a new specialism. In an attempt to create flexibility many learning programmes are constructed in a modular way so that blocks of learning can be selected as a learning programme is constructed. These smaller modules of learning offer curriculum flexibility and choice for the learner. However the key aspect of building a whole qualification is that blocks of learning are assessed and then credits for that learning is accumulated. Thus from a qualification point of view the building blocks are units of assessment rather than modules of learning.

Units of assessment may be aggregated into one qualification (credit accumulation) or used to gain credit towards another (credit transfer). A unit achieved in one setting may count in another. For example a unit in preparing dough for bread making may be given credit in a qualification for pastry cooks. This transfer of credit demands that units are assigned to a level in an NQF. This level, together with the learning outcomes that are assessed characterise a unit and allows transfer to take place and trust to develop in the value of the unit.

As units are assigned to levels in an NQF it is possible for NQFs to become credit and qualifications framework. The Scottish NQF has evolved into a credit framework. The main step in developing a credit framework is the process of giving a universal measure of the *volume of learning* for a unit. This is usually done by experienced people deciding how long it normally takes for a learner to be able to demonstrate the learning outcomes in the unit. This quantification of volume is completed by allocation of a number of credit points for the unit. In most cases 10 hours of learning are assigned a value of 1 credit point. Thus a unit on dough preparation for bread making might be characterised by:

- a title: dough preparation

- learning outcomes: technical content such as measuring ingredients in the correct ratio, proving the dough at the correct temperature

- level: three

- credit value: 5 credit points (50 hours of learning)

This information is sufficient for a user to decide whether the unit should be given credit in a new programme. If the user is simply interested in the fact that the learner has been learning at level 3 they may decide to give *general credit* towards a new qualification, e.g. 5 credit points towards a goal of 100 credit points for a whole qualification. If the user is interested in the dough preparation, i.e. the content, they may give *specific credit* of 5 units towards a unit on pastry making. General and specific credit is a useful distinction since it allows the user of the qualification to decide whether a learners achievement are sufficiently relevant to be granted the status of specific credit. Higher levels of trust may then develop for transfer of credit between qualifications

Units of assessment that simply accumulate into a whole qualification may have different levels of demand, or put in another way may be associated with different levels in an NQF. For example, a qualification at level 3 in a framework may draw on units associated with levels 2, 3 and 4. Thus the development of a credit structure makes clear this diversity of demand in a learning programme. Once again the increased transparency can facilitate higher levels of trust in credit transfer.

Credit accumulation and transfer systems are developing in some countries, often on the basis of well established frameworks of levels. Some see the introduction of credit accumulation and transfer can be seen as a second stage process and longer term goal in reforms of qualifications systems based on qualifications frameworks (e.g. the SCQF) others see the introduction of an NQF with credit transfer as the best way to achieve flexibility (e.g. Belgium Flanders).

Managing a qualification framework

The creation of an NQF involves consideration of how it will be managed in the longer term and how its effects are monitored. The European Commission conducted a wide-ranging consultation on the EQF in the second half of 2005. Many countries took the opportunity to state what they saw as critical factors for the development of an NQF:

- the use of learning outcomes;

- generating peer review and mutual trust;

- inclusion of all national stakeholders;

- systematic coordination between national ministries and authorities;

- creation of systems for validation of non formal and informal learning;

- creating robust quality assurance mechanisms.

Some of these factors are now examined in more detail.

Stakeholders

In terms of its management consideration needs to be given to coordinating the roles of the main government bodies – almost always the ministries of education and labour, and to how the main stakeholders will play a part. Countries with NQFs have often established a body with central authority for managing the technicalities of the NQF and for offering advice to government on main policy issues e.g. New Zealand). Thus the NQF body can play a distinct, mainly technical role which is distinct from the government ministries which retain a strong strategic function.

The extent of the remit of the NQF agency depends on the type of NQF adopted. For example an NQF which has a:

- partial coverage of qualifications will require a particular mix of stakeholders;

- role in major reform of the education and training system may require legal status;

- full regulatory function will require extensive quality assurance powers;

- competence-based set of descriptors may require a sub structure of employment sector committees;

- credit transfer function will require a credit rating function.

There will however be some common functions such as:
- accrediting qualifications to NQF levels;

- engaging and communicating with stakeholders;

- reviewing NQF design, functioning and operational procedures;

- monitoring NQF effects on lifelong learning;

- advising ministries on policy implications of monitoring.

Such is the diversity of NQF designs and national education and training infrastructures that there can be no single model for best managing a newly created NQF.

Financing

Framework developments can be expensive. Clearly the scope of the NQF and its intended purposes directly affect the costs of implementation and ongoing maintenance. This distinction between implementation costs and maintenence costs is important. Whilst it is common for NQFs to be established to bring coordination to existing structures and qualifications, the development of the basis for agreement on a NQF requires policy analysis, consideration of experience elsewhere, development of options, modelling of the favoured option(s), engagement of leaders of stakeholder groups, specialist task groups, consultation, communication with main institutions and the general public. The implementation phase could also involve piloting technical procedures and full scale trials. As discussed above a national body is aften established to manage the implementation phase and the ongoing maintenance.

Estimating costs therefore requires anticipating large scale systemic change that includes these elements and others.

The central administration costs related to the NQF can be relatively small. Even in countries where large agancies are responsible for the NQF it is the case that the costs (mainly staff costs) associated only with the NQF are low. However where such things as quality assurance procedures, curriculum and assessment monitoring, reviews of employment standards and establishing benchmarks to other national or international qualification frameworks are involved the costs can rise steeply.

NQFs take the place of informal structures and coordinate existing provision. It is likely, though difficult to quantify, that there will be some cost savings through this process. It is also likely that in a coordinated qualification system there will be some co-financing of some procedures such as the development of employment standards.

Some NQFs are explicitly quality assurance mechanisms and the title *national qualification* is reserved for those qualifications accredited to the NQF. Quality controls on these qualifications can be extensive and is intended to develop maximum confidence in users of the qualifications. Where education and training is funded by governement there is a good case for seeking return on the investment in quality assurance of national qualifications and consequently public funding favours these qualifications above others.

NQF as a mechanism for wider change

An NQF is essentially a classifier of qualifications, however, as stated earlier, the introduction of an NQF, or the manipulation of the structure of an existing NQF - or its associated instruments, can be a driver of change in the education and training system. In the examples that follow the links between an NQF design and systemic change is traced.

Overcoming compartmentalisation of the education and training and training system has been a goal in many countries. In the late 1980's in New Zealand various independent reports signalled the need for a radical overhaul of the qualifications system that it was felt was hampering participation, achievement and New Zealand's competitiveness. After a series of reforms to parts of the education and training system an NQF and a formal system of establishing recognition of qualifications based on unit standards (learning outcomes) was established. A national validating authority (The New Zealand Qualifications Authority) was also set up that required the assessment of learning programmes to be drawn up against unit standards and to be subject to a series of quality assurance procedures including the accreditation of providers. The NQF was both a product of the need for widespread reform and a tool for maintaining a reformed system. The NQF regulatory requirements are a means of bringing increased commonality to different parts of the education and training system whilst preserving the integrity of those separate systems and the roles of key agencies within them. So employment sector bodies, schools, community groups, private providers and higher education all have separate procedures for developing unit standards and maintaining the quality assurance requirements of the NQF. The universities are not part of this process and there are qualifications that are not sufficiently based on unit standards to be part of the NQF. A comprehensive register of qualifications has been set up to include all qualifications – the NQF qualifications are a subset in this listing.

The Scottish Credit and Qualifications Framework (SCQF) also developed in a way that reduced barriers between parts of the education and training system. However it also has taken on the task of

sustaining systematic transfer of credit at the level of units of qualifications. The SCQF developed as a result of a series of innovations in the education and training systems covering school, vocational and higher education. Each innovation reinforced the SCQF as a means of securing greater coherence in the qualifications system. At the same time as these substantial changes were being implemented, knowledge of system-wide features was shared and broadening as a result. Credit transfer was seen as a means of increasing the flexibility in qualifications and the SCQF was identified by its partners as having the potential to accommodate the common principles necessary for its implementation. One of the functions of the SCQF is the credit rating of units of qualifications. The rules for good practice can be agreed centrally but a prerequisite for credit transfer is that the units of assessment in learning programmes have to be rated in terms of volume of learning. Making judgements about learning volumes involves close scrutiny of the curriculum and some attention being paid to pedagogy and resource provision. Thus the providers closest to the programmes are enabled to carry out this process and the influence of the SCQF is extended deep into the education and training process.

The development of the South African Qualification Framework (SAQF) was part of a national programme for social reform and has a philosophical basis that makes it distinct from other frameworks. The use of the SAQF to establish equity of access and participation for South Africans was a powerful shaper of the final form of the framework. For example one objective is to accelerate *the redress of past unfair discrimination in education, training and employment opportunities.* This is thought necessary because in the past certain institutions were privileged above others as a result of a policy of unequal allocation of resources to learning institutions based on race. Inevitably a perception grew that these institutions were superior and graduates from these institutions gained preferential treatment in access to further education opportunities and in the labour market. Thus the institution delivering the qualification based programme became more important than the qualification itself. When one set of institutions have their status raised at the expense of others the fragmentation of society is more likely and the designers of the SQQF were faced with addressing these issues. Through a deep commitment to outcomes based learning South Africa has chosen to bring about systemic change in the nature of the education and training system - *this systemic change is intended to transform the manner in which the education and training system works as a system, how it is organised and the vision that drives participants within the system as they perform their own particular roles and functions within that system*[8].

By defining outcomes the attention is drawn away, at least to some extent, from the delivery of the learning. However there is still the issue of redress of discrimination that has effectively reduced access to the labour market in some way and reduced the quality of life and aspirations of some people. To underpin the technical aspects of qualifications programmes the SAQF makes reference to *critical* outcomes. These outcomes are thought to be critical for the development of the capacity for lifelong learning. These outcomes are intended to direct the thinking of policy makers, curriculum designers, facilitators of learning as well as the learners themselves. It is mandatory for qualifications designers to incorporate at least some of the critical outcomes and all the critical outcomes which are included have to be associated with a SAQF level appropriate to the qualification of which they are part. Thus in the case of critical outcomes we can see an NQF with features that whilst beyond the normal scope of a framework are fit for purpose for the NQF as a whole.

The UK and Ireland have for many years had a high level of worker and student mobility across borders. In recent years these islands have all developed NQFs (England, Wales and Northern Ireland share a single framework but Wales is developing a broader Welsh credit framework). These NQFs have developed according to needs that are slightly different in each country and differences are evident in the NQFs – not least in the favoured number of qualifications levels. These differences are believed to have been an obstacle to mobility of people since the differences in levels make it difficult to find out what a qualification at a specific level in a person's home country is equivalent to in another country. Not only is it confusing for individuals but it is also confusing for those who recruit people into jobs and study programmes and for those who offer careers advice. In response to this problem the qualifications agencies in the different countries designed a 'framework of frameworks' to show alignments as clearly as possible. The effect of this overarching diagram is to facilitate mobility and goes beyond the capacity of any one of the frameworks to do this.

The French qualifications levels represent an attempt to bring economic advantage through a classifications system. In the 1960's the training level classification system was created as part of French economic planning and to go beyond forecasting skills needs by enabling the education and

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[8] drawn from the SAQF website: www.SAQF.org.za

training system to supply sufficient numbers of people skilled to appropriate levels in appropriate occupations. It was a tool for developing active educational policies directed at increasing and standardising vocational training in order to guide and promote French economic development (Bouder, 2004). The classifications system led to the setting up a qualifications agency (CTH : Commission Technique d'Homologation) that is responsible for positioning all diplomas and maintaining an up-to date classification according to labour market innovations. One aspect of the classification system is that it is deeply embedded in social hierarchies and goes beyond a simple classification of diplomas and training programmes. The new classification system, introduced in 1994, attempts to classify any training programme regardless of its level, mode of learning, field of application or social use, including personal development activities and leisure programmes. Like other frameworks this initiative aims to de-compartmentalise the education and training system and form links between school education, vocational education, university education and professional education.

Some NQFs (e.g. the UK frameworks) attempt to lower the hurdle of recognition to enhance access to formal qualifications. They do this my means of additional lower levels that are referred to as *entry* or *access* levels. The characteristic of these sub levels is that they are based on progress towards a learner's personal goals rather than externally referenced benchmarks that begin with level 1in an NQF. The fact that these levels are not given framework level numbers i.e. they are lower than level 1, signals that the NQF is being used to extend the range of formal recognition to assist some people to get on the ladder of qualification achievement and gain recognition and to make progress during their lives in terms of jobs and study. These lower levels of achievement are also used to influence learning provision (quantity, quality and status).

The final example of a framework being used for purposes that lie outside the education and training system is the European Qualification Framework which has its principal aim linked firmly to the Lisbon goal of more and better jobs for all European citizens and the creation of Europe as a top performing knowledge economy. The Maastricht Communiqué (European Commission, 2004) states that the EQF *… will improve permeability within education and training, provide a reference for the validation of informally acquired competences and support the smooth and effective functioning of the European, national and sectoral labour markets... and should facilitate the voluntary development of competence based solutions at the European level enabling sectors to address the new education and training challenges caused by the internationalisation of trade and technology.'* The EQF design, which is based on learning outcomes and a set of levels aimed to correspond with the labour market job structures, should facilitate this aim. The EQF also has an aim to support and promote change in national systems of qualifications. This is a clear signal that the reforming power of national qualifications frameworks can be enabled by the existence of a high-status overarching framework that is respected by trading partners.

Policy learning and frameworks

It is now accepted that the various processes of *policy learning* are likely to lead to stable and effective outcomes of reform process than the simplistic notion of *policy borrowing.* Contextual differences in countries and regions are not something that can be controlled as in a scientific experiment, they are powerful, pervasive and valued and are therefore generally non-negotiable. It will be clear from the previous discussion that NQFs form part of the national identities of the countries that have them. Even in countries without NQFs the national reference qualifications in schools, employment sectors and higher education are contributors to national identity. It should therefore be evident that to insert a framework developed on the basis of a logic and context of another country is a risky process.

The aim of this discussion paper has been to consider the different features of NQFs and to see how they interface with the national realities of social and economic infrastructure and the appetite and resources for reform. Thus the paper is not offering a step-by-step guide to NQF development but rather a framework for policy learning in relation to NQF design and implementation. Policy learning does not begin with an empty page. As suggested throughout the text above it is necessary to have a view about the short and longer term goals of introducing an NQF. These goals can be negotiated, consulted upon and amended with only the lightest of designs of a possible framework. During this conceptualisation process the published literature and good practice examples from outside the state inform and deepen the design, implementation and maintenance of ideas about an NQF. The process can be managed by ensuring that key players have exposure to the advantages and disadvantages of different models and access to experts who can interpret the evidence for policymaking whilst respecting national

infrastructures and resisting over complex solutions and rapid routes to decisions. Interaction with managers and policy makers from other jurisdictions can safeguard and optimise the impact of the exposure phase. Similarly interactions with models of implementation, such as scenarios of NQF implementation over different timescales, are also potentially useful tools. The third stage of policy learning is adaptation of features of other NQF models to the national setting. This stage brings the opportunity for consultation and developing of ownership of the emerging NQF model and a first clear sight of major obstacles to implementation. Finally policy learning can use the opportunity to have evaluation of the preferred model by using international benchmarks for NQF design. In summary policy learning can play a useful role in NQF design by providing a network of external reference points for informing decision making about NQF design and implementation.

For European countries the EQF proposal is acting as a catalyst for networking sharing and critical appraisal of NQF design activities. The EQF is a device for cooperation and articulation between NQFs and employment sector framework developments. It is intended to provide a language (levels and descriptors of competence) for articulation and can itself provide a benchmarking service through the bodies that reference NQFs and major national qualifications to the EQF. This benchmarking is likely to be an important phase of policy learning and will be the crucial stage in optimising qualifications systems for use in enhancing mobility and credit transfer. Countries that share borders will be able to use the developing NQFs to formalise, at least to some extent, the process of recognition of qualifications and competences that are sometimes too long, too complex and inefficient.

The benefits of qualification frameworks

Having looked at qualifications frameworks is some detail and considered throughout the notion of 'fitness for purpose' of qualifications frameworks it is useful to conclude with a look at the evidence of the benefits of frameworks.

Table 3: evidence for the effects of NQFs

Benefit of NQFs	Summary of depth of evidence
NQFs can simplify complex qualifications arrangements and act as a force for greater integration	On the surface NQFs are simple representations and serve the purpose of increasing transparency. Where NQF reforms have attempted to reduce unnecessary overlap between qualifications they have been partially successful. Some NQFs have taken on board more functions and for ordinary users of qualifications the system might appear more complex.
Frameworks can counter the complexity that arises when there is intersection between localised (regional or sector-specific) qualifications systems	There is evidence in federal systems that this can be true.
NQFs can help governments by benchmarking qualifications and establishing safer standards	There is limited evidence of small scale attempts to do this. The EQF proposals may generate more evidence.
NQFs can help provide clarity about competences, skills and qualifications that are needed by enterprises for employment	Strong evidence from countries with competence based systems and national standards for occupations.
NQFs can act to ease the portability of qualifications	Many factors affect portability, evidence that NQFs help is limited.
NQFs can facilitate and promote mutual cooperation and understanding as well as international mobility of workers and learners	No evidence for this.

NQFs can help address demographic skills supply problems by opening up qualifications to wider sets of learners by making clear what qualifications are available and how they relate to progression routes.	No evidence for this.
NQFs which include credit systems can reduce the time spent by learners re-learning material to reach outcomes already achieved in other contexts.	The number of credit systems is limited therefore no evidence.
Qualifications frameworks can contribute to quality assurance arrangements. For example by being used for accreditation purposes	Strong evidence for this. However some quality assurance arrangements could exist independently of a NQF.
Guidance material for users is easier to develop and disseminate if it is based on a well-known structure such as a framework.	Good evidence for this
NQFs can support sector representative bodies by acting as a single reference point for locating occupational standards or competences and as a tool for developing international standards for qualification and training	Where occupational standards exist there is some evidence for this
NQFs can support providers of training by creating commonly understood, and quality assured, benchmarks for qualifications	Good evidence here based on regulatory frameworks
NQFs can support employers by providing commonly understood, and quality assured, benchmarks for qualifications and easier identification of nationally quality assured qualifications as opposed to others.	It is difficult to distinguish the effects of a framework from the effects of a qualification with high currency.
NQFs will support individuals by making it easier to describe their broad level of competence to recruiters.	No substantial evidence as yet

Summary

This paper aims to review of the nature of different kinds of qualification framework and suggests how the form of a NQF can be designed so that it functions in ways that are likely to deliver the desired benefits. It is not possible to make robust statements about the consequences of choosing a specific set of design characteristics because:

1. the design characteristics interact with each other:

2. the country context is a powerful determinant of effect;

3. there is little independent evaluative research of effects of certain characteristics.

An NQF is introduced to bring transparency to the qualification system by showing the relationships between different types of qualification. However it is also often seen as a way of coordinating other reforms of the qualifications system such as:

■ bringing different sectors closer together;

■ planning the supply side of competences for the labour market;

- rationalising institutional infrastructure;

- forming a basis for credit transfer;

- providing equitable access to qualifications;

- providing a basis for quality assurance processes.

NQF development should be seen as an ongoing process. The introduction of an NQF requires the creation of a management system. NQFs also evolve by adopting new features over time. The implication of this is that a staged approach to the introduction of all the desired characteristics of an NQF is possible.

Policy learning from experience in other countries should be engineered into the development process because it has benefits in optimising NQF design, functioning and evaluation.

Finally NQFs are often seen as ways of cleaning up a qualification system by bringing order and clear communication about available qualifications. NQFs are best seen as a new way of coordinating a necessarily diverse set of qualifications rather than a means of rationalisation to eliminate diversity.

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For the European Training Foundation, March 2006

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Annex 1: the position of countries with regard to qualifications frameworks Complete as at 13/12/05

Country	Framework	Notes
Austria	Beginning work on an NQF	The framework must be based on learning outcomes
Belgium Flanders	Blueprint for an NQF exists	Based on 8 levels and on learning outcomes (could include a credit transfer system)
Belgium Wallonia	An NQF is being considered	
Bulgaria	An NQF is being considered	
Croatia	First steps towards an NQF have been taken	
Cyprus		
Czech Republic	Developing a full NQF	Using the Irish model
Denmark	Early discussions on the relevance of an EQF	
Estonia		
Finland		
France	A series of QFs, proposal to unify all frameworks	Oldest existing framework of 6 levels
Germany	Developing a unified NQF, currently a range of classification systems	
Greece	Intend to develop a unified NQF	
Hungary	Commitment to develop an NQF	Learning outcomes and efficient quality assurance important
Iceland		
Ireland	Full NQF developed	10 levels based on standards of learning
Italy	Efforts to increase coordination in qualifications system, possibly through an NQF	Learning outcomes important
Latvia	Proposal to link VET framework and higher education framework	
Liechtenstein		
Lithuania	Comprehensive NQF planned	8 levels
Luxembourg	NQF being discussed	
Malta	Discussing the development	

	of a NQF	
Netherlands	Four frameworks exist, strengthening coordination planned	5 levels in the VET sector and 3 in the higher education sector
Norway	Discussing the development of an NQF	
Poland	Discussing the development of an NQF	
Portugal	Intend to develop a unified NQF	
Romania	Much activity on developing NQF based on EQF proposals	8 levels
Slovak Republic	Developing a unified NQF	
Slovenia	Partial NQF development	A combination of an institution-based and an outcome-based approach, 4 levels are developed for vocational and technical qualifications
Spain	Full NQF for vocational qualifications	Based on 5 levels and learning outcomes
Sweden		The problems related to linking of different sub-systems of education has been acknowledged and put on the policy agenda; but has so far not resulted in the proposal for a formal framework
Swiss Confederation	Considering developing a NQF	
UK England and Northern Ireland	Full NQF	Based on 8 levels (+ an entry level) and learning outcomes (credit transfer system under development)
UK Scotland	Full NQF and credit framework	Based on 9 levels (+3 access levels) and learning outcomes with an associated credit framework
UK Wales	Full NQF and credit framework	Based on 8 levels (+ an entry level) with an associated credit framework
Turkey	Min elements of an NQF in place	Probably 8 levels
Albania	Some activity about EQF development	
Andorra		
Russian Federation	Discussing the development of NQF across E&T sectors	

Bosnia-Herzegovena		
Serbia-Montenegro		
Macedonia		
Ukraine	Discussing the development of NQF	
Armenia		
Azerbaijan		
Georgia		
Moldova		
Australia	Comprehensive NQF based on reference qualifications	Effectively 11 levels
Canada	Early discussions on NQF	
Hong Kong	Developing a NQF	7 levels
India	Details not known	9 levels
Malaysia	Developing a NQF	5 levels, 8 including sub categories
Mauritius	Developing a comprehensive NQF (since 2002)	
Mexico	NQF for vocational qualifications	5 levels in 12 occupational areas
Mongolia	Interest in the concept of an NQF	
Mozambique	Discussing forming an NQF	
Namibia	Developing an NQF	Established the Namibia Qualifications Authority in 1996, but still developing the framework
New Zealand	Comprehensive NQF based on independent descriptors (learning outcomes)	10 levels
Philippines	Developing an NQF for vocational and technical qualifications	9 levels
Pakistan	Interest in the concept of an NQF	
Saudi Arabia	Higher education credit and qualification framework	6 levels + entry level
Singapore	Discussions about an NQF for VET	3 levels of vocational competence
South Africa	Comprehensive NQF	8 levels defined in outcomes
South Korea	Discussions about a NQF for	

	VET	
Sri Lanka	Discussions about a NQF for higher education	6 levels
Thailand	Comprehensive NQF proposed	10 levels
Trinidad & Tobago	Developed an NQF for vocational and technical qualifications (2001)	5 levels
Vietnam	Interest in the concept of an NQF	
Country	Framework	Notes
Austria	Beginning work on an NQF	The framework must be based on learning outcomes
Belgium Flanders	Have produced a blueprint for an NQF	Based on 8 levels and on learning outcomes (could include a credit transfer system)
Belgium Wallonia		
Bulgaria		
Czech Republic	Developing a full NQF	Using the Irish model
Denmark	Early discussions on the relevance of an EQF	
Estonia		
Finland		
France	A series of QFs, proposal to unify all frameworks	Oldest existing framework of 6 levels
Germany	Developing a unified NQF, currently a range of classification systems	
Greece	Intend to develop a unified NQF	
Hungary	A series of QFs	
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Ireland	Full NQF developed	10 levels based on standards of learning
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Latvia		
Liechtenstein		
Lithuania	Comprehensive NQF planned	8 levels
Luxembourg		
Malta	Discussing the development of a NQF	
Netherlands	Four frameworks exist	5 levels in the VET sector and 3 in the higher education

		sector
Norway	Discussing the development of an NQF	
Poland		
Portugal	Intend to develop a unified NQF	
Romania	Much activity on developing NQF based on EQF proposals	8 levels
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Slovenia	Partial NQF development	A combination of an institution-based and an outcome-based approach, 4 levels are developed for vocational and technical qualifications
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UK Wales	Full NQF and credit framework	Based on 8 levels (+ an entry level) with an associated credit framework
Croatia		
Cyprus		
Turkey	Some activity about NQF development	Probably 8 levels
Albania	Some activity about EQF development	
Andorra		
Holy See		
Russian federation	Discussing the development of NQF across E&T sectors	
Bosnia-Herzegovena		

Serbia-Montenegro		
Macedonia		
Ukraine	Discussing the development of NQF	
Armenia		
Azerbaijan		
Georgia		
Moldova		
Australia	Comprehensive NQF based on reference qualifications	Effectively 11 levels
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Singapore	Discussions about an NQF for VET	3 levels of vocational competence
South Africa	Comprehensive NQF	8 levels defined in outcomes
South Korea	Discussions about a NQF for VET	

Sri Lanka	Discussions about a NQF for higher education	6 levels
Thailand	Comprehensive NQF proposed	10 levels
Trinidad & Tobago	Developed an NQF for vocational and technical qualifications (2001)	5 levels
Vietnam	Interest in the concept of an NQF	

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