5. Creating a new metaframework of qualifications levels in Europe

It would be relatively easy to define a set of reference levels using the main international reference systems described earlier. However, while this would build on ZMTs associated with these frameworks, it is likely that tensions would grow as a result of national differences of interpretation of descriptors and insensitivity to the nature of VET, particularly its breadth regarding learning diversity. Add to this the fact that the reference levels are required to sustain a credit transfer and accumulation function, and the need to look for more practical and theoretically grounded reference levels was clear. Rooting a reference level framework in its potential uses provides for a logical flow of ideas from purpose through to design considerations. The latter are the core of this research study. The TWG will be in a position to refine the range of uses proposed and the range of key stakeholders identified; it will also be able to adjust basic design features and explore the effect of these refinements on the proposed model for reference levels so that design is optimised for use.

What could a European reference level framework be used for? It is accepted that it will be a basis for ECVET and it will encompass the level framework for HE. There may be some wider uses of such a reference level framework. To be able to define purpose in some detail we need to look closely at more specific uses as well as general ones. A set of European reference levels may help to answer questions such as those that follow. These questions could come from learners, providers or social partners.

5.1. Questions from potential users

(a) If people are going to move around Europe to work how will we facilitate transfer to institutions, providers and employers in different countries?

(b) There are now 25 countries in the new European Union; their VET systems are all different. Is there a benchmark that can be used to understand and compare them?

(c) I want to set some targets for upskilling the workforce in public transport industries. What international benchmarks are available for me?

(d) I want to develop an advice pack for people wanting to work or study in a different country. What descriptors can I use to describe VET systems?

(e) I run a big company and want to pitch a new training programme at a specific level and get people from different countries to participate in it. How do I pitch it right?

(f) This applicant has been trained in another country. What level is his training compared to this country?

(g) How many units of credit should I give to this type and length of training and experience in another country?

(h) This professional body recognises some qualifications and training in other countries; we would like to have the confidence to recognise more. How can we work with professional bodies in other countries to be sure that qualifications and training are of the right kind and quality?

(i) I'm designing a course and I want to pitch it so that it gains maximum recognition in other countries. How do I do this?

(j) I have a qualification and I want to work in another country. Is it going to be useful to me?

(k) I have some units of qualifications and I want to study for full recognition in another country. Will they count?

(l) I have some experience from work in another country and I want to get it credited so that I can get onto a course or be accepted for employment. Will I get credit for my work?

(m) I have skills in my trade and I want to broaden my general education. How can I find out if my skills are worth credit for a university course?

(n) I want to recruit people for a vacant job and I have some applicants with foreign qualifications. Where can I get help?

(o) Does an electrical installation expert in that country do the same things as one in this country?

(p) How do I compare this young woman (from another country), who is applying for her first job, to an applicant from this country?

(q) We have a national system of occupational qualifications and units. How do they compare to qualifications and/or units in other countries?

By considering questions such as these it is possible to build, bottom-up, some foundations for reference levels. The next stage is to condense the list into a series of categories of different purposes. Using the questions above it is possible to propose that the main purposes of a European reference level framework are the following:

(a) a means of understanding the system of providing knowledge, skills and competences in different VET systems across the wider European Union;

(b) a way of developing a convergent trend in European VET systems so that barriers to movement of people, skills and enterprises are reduced;

(c) the basis of developing ZMTs across country boundaries and possibly across sectors within a country;

(d) a means of structuring sector activity so that it becomes coherent and integrated with work in other sectors;

(e) the basis for equating qualifications, training and work experience across countries;

(f) the basis for ECVET;

(g) a means of linking VET and HE in a single qualifications framework;

(h) supporting target setting and planning for the medium term;

(i) facilitating cooperation between providers of VET in Europe;

(j) providing a means of recognising progression in learning between and within levels.

The next stage in the development of European reference levels is to consider the key groups of people who will use them for one or more of these different purposes. The process of identifying these groups maintains a strong focus on the customer and begins the process of development of a ZMT built around reference levels and ECVET. Research has shown many times that development without these stakeholders is likely to be limited, protracted in time and heavily focused on overcoming issues and differing interests (Sellin, 2002; Coles, 2004).

Our users are likely to be:

(a) European policy-makers;

(b) national policy-makers (in ministries, in government organisations and major independent players);

(c) regional policy-makers;

(d) universities and other HE institutions;

(e) professional bodies (sectors and trade unions);

(f) analysts (for example labour market researchers);

(g) employers;

(h) training providers, VET managers, designers and recruiters;

(i) applicants for courses and jobs in another country.

5.2. The specific nature of a reference level framework

Up to this point we have considered existing frameworks, potential uses of a new framework, definition of purposes and identification of key groups. At this stage it is crucial to note that the European reference levels need to do more than help to locate qualifications and evidence of training and prior experience at particular levels. The framework also needs to facilitate the allocation of credit and allow its transfer to other systems of recognising achievement. The major difference of this additional purpose is that the input material - the material containing information about achievement or experience in one country - could be less substantial than a whole qualification or period of training. It could be at the level of module or unit of training, level of assessment or short period of experience. This smaller unit of evidence to be linked to reference levels may make demands on the descriptors of reference levels. They may require:

(a) more detailed description of VET related achievement;

(b) a wider range of dimensions to which the achievement can be linked to a particular level;

(c) an overarching statement about minimum acceptable volumes of learning, achievement and experience;

(d) some evidence about the broader programme or experience of which the evidence is only part;

(e) allowance for the process of accumulation of credit.

Units of credit (partial qualification) also build into full qualifications and European reference levels will need to be consistent in the way they allow matching of levels of both partial and full qualifications. For example, it may be the case that the value of a free standing unit may be perceived to be greater than its natural proportion of the whole qualification of which it is part. There may also be issues associated with allocating credit to core units and supplementary or additional units. Rules of combination of units may be required. Many of these credit-related issues, however, fall outside the remit of this study.

A second feature of any European reference levels framework that requires clarification is the extent to which it will be expected to be formative on qualification development. In many countries with a published qualification framework the key purpose of the framework is to make the qualification system transparent and to make explicit the links between qualifications and defined progression routes (SCQF, 2003 and South African qualifications framework, details at http://saqa.org.za). In making the qualifications system transparent to users it is sometimes inevitable that pressure is put on some existing qualifications to adapt to the environment of a new framework (see details at http://www.nqai.ie and http://www.qca.org.uk). In some cases new qualifications are developed from framework requirements (see http://www.nzqa.govt.nz). In the case of European reference levels there is a clear argument for building on the basis of existing ZMTs and therefore matching, as well as possible, existing expectations of ZMTs. However there is unlikely to be a perfect 'fit' to existing ZMTs in every country and sector and some adaptation is inevitable. There is also the pressure to look to the future and build reference levels that reflect the skill requirements of a future European labour market. While this is unlikely to require shifts in the range of levels it is likely to create pressure to distinguish between levels of qualifications where training requirements and working practices are changing fast, for example in ICT based sectors.

A declared purpose of ECVET is to facilitate cooperation between providers, teachers and learners beyond national frontiers (see TWG definition of the functions of ECVET at http://communities.trainingvillage.gr/credittransfer?go=z988442. Cooperation will depend on common understandings of levels and what they mean. It will also mean that there is some scope for negotiation and discussion of differences. This indicates that any level descriptor for European reference levels will need to be defined to encourage reflection on the way national qualifications or training structures match these descriptors. A conclusion might be that European reference levels must at once recognise existing practice and make potential users feel comfortable with the defined levels but, at the same time, they must create a mechanism which takes into account the need for change and development in line with clear and future-oriented European qualifications and training structures.

All of the elements of discussion of the nature of ZMTs and of existing frameworks can now be brought to bear on the possible reference framework options.

5.3. Possible structures

Having identified purposes, stakeholders and some key issues that reference levels need to address, we can look more closely at the options for defining the reference level framework. The reference level framework should have certain qualities if it is to fulfil the purposes. For example, it should:

(a) be easily understood regarding what it is, what it can do and what it cannot do;

(b) enable an increasing development of ZMTs so that it builds on current practice and takes account of the ways reference level frameworks become popular and influential;

(c) be consistent with existing widely used frameworks;

(d) cover all aspects of VET, i.e. training provision, qualifications development, assessment of work-based knowledge and skills, certification;

(e) be especially conducive to linking a unit of assessment with a level;

(f) be capable of offering a meaningful reference point within different VET contexts such as occupational fields;

(g) recognise social reality regarding labour market conditions and wider social goals and be capable of evolution to meet pressures for change;

(h) include HE frameworks and levels;

(i) facilitate sector involvement.

There are also structures that cannot be ignored in the definition of European reference levels:

(a) there is a common framework with ISCED that has already established a level system for equating initial education systems;

(b) there is an accepted qualifications structure for qualifications awarded in HE;

(c) NACE (ISIC) has become a foundation for sector definition;

(d) the emerging EU level system for recognising regulated professional qualifications;

Any system must be allowed to accomodate input models of VET and models based on assessed outputs. It also needs to be flexible in allowing a European credit system to develop.

5.3.1. Steps towards a practical design of European reference levels

There seems little doubt that the European framework needs to incorporate the qualities of a descriptor-based framework rather than that of an equating framework. The reasons for this decision are straightforward: European reference levels must always be seen as inclusive to all users and must allow for the broadest range of learning to gain recognition. This is not to say that there should be no formative influence to align as might be required by an equating framework. A key point in this report, building on our study of ZMTs, is that any allocation of qualifications to reference levels should be left to national governments. We will return to this issue later.

Having decided that descriptors are necessary, the next decision is about the degree of elaboration of these descriptors. We sense from the literature a constant need to elaborate descriptors and to allow for sub-divisions within levels to accommodate and regularly update a wide range of qualifications. Commentators point consistently to the limitations of specific descriptors. Descriptors seem to be both 'obviously necessary' and, at the same time, always vulnerable to well-grounded critique which points out empirical limitations and problematic theoretical assumptions (not least where single-paragraph descriptors rely on minor linguistic or terminological variation to produce descriptors at different levels).

One way of treating the limitations of descriptor-based frameworks is simply to devise a credible set of descriptors and to ignore the subsequent critique, basing any refinement of the framework on the effects which the framework is having in respect of ZMTs, selection and access, and qualifications development and supply. ISCED 97 and the European five level framework adopt this position, although the former has undergone partial transformation through including certain kinds of sublevels with A, B and C specifications (see Annex 1).

One way in which the respective benefits of equating and descriptor-based frameworks might be combined to yield a powerful 'metaframework' is by developing a framework with scope for a large number of discrete dimensions of demand or achievement. Any given qualification might be admitted on the basis of 'best fit' to the full set of descriptors, rather than having to meet all the requirements of the descriptors. There might be areas in a level which one qualification might meet and another might not, despite sharing four or five in common. This meets the criterion of sensitivity (allowing variation in qualifications to be accommodated) while meeting the criteria of showing relations (relational descriptive power) and indicating in what ways a qualification might need to be developed to be a closer match (promotion of change and coherence). Such a framework allows vacant 'cells' in the framework. It also allows an important development, the reconciliation of a focus on qualifications (large units) and modules/credits (small units). This allows a person holding a qualification meeting five necessary elements at a given level to focus on the precise elements, for instance in the form of a learning module, to allow them to gain the other element and so meet all six elements of the framework at that level (see above).

We strongly recommend this approach for the reasons given above and because of a belief that a powerful ZMT could be established around a framework that has a simplicity of appearance but a capacity to accommodate at a fairly sophisticated level of detail.

5.3.2. The proposed design: a matrix approach

It seems clear that the development of any overarching European model must be flexible enough to encompass national, regional and sector variations. A European qualifications framework would amount to an agreement about a common structure or architecture within which all different current and future qualifications could be located. It would not, or need not, entail the creation of identical qualifications regarding specific standards, delivery, content or approach, although the development of shared descriptors or a shared understanding of 'generic' qualifications, such as first degrees in higher education, does bring advantages to recognition and comparability. Rather, it would provide a context within which a wide variety of qualifications could be located. It would mean the establishment of a European framework that would accommodate national qualifications frameworks, in turn reflecting different national priorities and cultures and possibly more detailed specifications.

The point of a reference level system is to make it possible to gauge the relationship between one area of vocational learning and another. Until VET credits are developed, the language we will use will probably be of levels. The challenge we have is to describe levels in a way that allows every potential user to feel they understand the scope and limitations of the level and, when they apply this understanding to specific learning, that they feel confident in the way it matches or mismatches the respective level.

One idea, formulated in several reports, papers and presentations is to describe a level in terms of several qualitative dimensions. Thus we have a two dimensional grid: a vertical dimension of level or demand and a horizontal dimension containing classifications with various characteristics regarding knowledge, skills and competences. This horizontal dimension will facilitate recognition of the main areas of VET learning. The area of this grid constitutes a ZMT since every cell in the grid represents an area of value and trust. We propose developing a descriptor-based framework with an associated handbook that covers the qualitative dimensions. Users could look to the descriptor to gain a general understanding of the level and then use the manual to learn about the different ways qualifications and training programmes are structured and described. We will now move on to consider detailed aspects of a matrix that incorporates descriptors and horizontal qualitative dimensions.

5.3.3. The vertical dimension

The levels in an overarching European framework for qualifications needs to accommodate comfortably the levels included in as many of the national and sector frameworks as possible. The simple solution to determining several levels for the European framework is to scan the existing national and sector frameworks and seek out the framework with the largest number of levels. We can use the Scottish experience and evaluation projects such as the Cedefop review of training levels from 1985 ([4]) to support the use of a high number of levels. These

([4]) See Cedefop, *European structures of qualification levels.* Luxembourg: Cedefop, 2001, Vol. I, II and III.

examples suggest use of high numbers of levels holds considerable advantages (helping with accommodation and the alignment of complex relations), and allows for the notion that some levels can be vacant.

Another consideration in the design of the European framework is the need for simplicity which suggests a small number of levels. Stakeholders need to have a concept of a 'European level' that is easily equated to a level in the local system they know well. In other words a European level needs to be a concept of learning achievement, in VET and through LLL, that a particular local level indicates to the stakeholder. As the number of levels increases, this conceptualisation of specific level is harder to maintain and instead the whole framework becomes the main way of thinking about VET levels. However, there is evidence that stakeholders are usually concerned about one particular region (e.g. a narrow range of levels or the cells that accommodate a specific set of qualifications) of a framework and do not concern themselves with the whole. The ideal solution is for stakeholders to see one level with confidence and clarity and also see the meaning of all the levels in the framework. One way of accommodating the need for a small number of discrete levels and the benefits of a large number is through the voluntary use of sublevels. Examples of sublevel systems are given in Annexes 6 and 8.

Sublevels can take two main forms. First, they can symbolise a progression in performance within a level and so are essentially hierarchical (e.g. novice, competent, expert). Alternatively, they can be categorical sublevels that show the different nature of qualification that could be part of a main level (e.g. general education qualification, VET qualification, experience of work). Both of these options are attractive for European reference levels; the progression model offers the prospect of accommodating different national structures while the categoric model keeps the overall reference level model simple by accommodating different types of VET achievement. On balance, the progression model offers more since the categorically different features of VET achievement can be accommodated in the horizontal component of a framework (see below).

We propose that three sublevels may be used for each main level. They may be tentatively defined as follows:

(a) partial, indicating that the qualification or completed training programme or job experience, while predominantly matching the specific descriptors, has some significant gaps that need to be acknowledged.

(b) modal, indicating that there is a good match of the qualification or completed training programme or job experience to specific descriptors.

(c) exceeds, indicating that there is a complete match of the qualification or completed training programme or job experience to the requirements of the specific descriptors at this level and there are some additional elements that exceed the requirements of the descriptors at this level.

These sublevel terms represent subdivisions of the overall or 'parent' level. A qualification needs to be matched against the parent level that offers 'best fit'; the match may not be

perfect. The sublevels offer the opportunity to make the fit better by locating a qualification at 'partial' when it seems to lack something in relation to the parent or at 'exceeds' when it is slightly better than the parent descriptor but not at all at the next parent level up the framework.

A language of discrete numbered datum points is internationally accepted. Many frameworks have a numbered dimension where each level is described as discrete from its neighbouring levels. We propose that the TWG continues to use numbered levels. However there are advantages in also using a qualitative description for each level. First, names can be adapted from existing structures in countries and sectors to show the relationship between the national framework and the European reference levels; the naming of levels should be left entirely to users as there is no immediate advantage in having a single European naming system for levels, translated into different languages. Second, the use of names may help to produce a concept of opportunities for progression and continuous transition from one main level to the next, so aiding the lifelong learning objective. The levels in the European language framework are defined with words that broadly describe the characteristics of the level. Naming levels could offer a third advantage: names for levels could intentionally be made to not overlap with existing terms in a national framework if a policy of reform and change is desired. It should be noted that names for levels could also offer countries and sectors a chance to consolidate names for levels (and, if applicable, sublevels) into one agreed form. In some countries there is a multiplicity of terms for different levels or sublevels.

The following vertical components for reference levels are thus proposed:

Table 4: Vertical components of reference levels

European reference level	**Name (determined nationally, suggested notation that might be appropriate in the United Kingdom)**	**Sublevel if applicable (coverage) (determined nationally, suggested notation for the United Kingdom)**
1	General	
2	Entry	Partial
		Modal
		Exceeds
3	Foundation	Partial
		Modal
		Exceeds
4	Technician	Partial
		Modal
		Exceeds
5	Expert technician	Partial
		Modal
		Exceeds
6	Expert	Partial
		Modal
		Exceeds
7	Master	Partial
		Modal
		Exceeds
8	Specialist	Partial

		Modal

5.3.4. Defining the characteristics of levels

There is considerable research evidence in this field. It is suggested that broad criteria be applied to make descriptors for one level (or sublevel) distinct from others. Descriptors should be:

(a) referenced clearly to the levels above and below, where appropriate, only regarding progression. In all other ways each level descriptor should be independent;

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

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

(d) jargon free and transparent for the non-expert reader;

(e) as brief as possible to facilitate clarity of the concept of the level.

Further work needs to be carried out to produce a widely accepted and robust set of descriptors for European levels of education and training. However the research carried out on existing frameworks suggests that a distinction between general level descriptors and specific level descriptors is useful. General level descriptors are broad statements intended to convey a notion of level. They accompany the number (and possibly the name) and do not make reference to any existing qualification or specific standard of VET learning. Specific descriptors bring the vertical and horizontal components together by illustrating a more detailed description of the requirements of a qualification to match a level (or sublevel). We will return to specific descriptors when we discuss the horizontal dimension. The level of specificity included in descriptors is an important issue. If the specification is detailed and highly specific, descriptors become threatening to users and they tend to act in a way that excludes matching and possibly reduces opportunities for a wide ZMT to develop. When written in a broad way they tend to be read as inclusive therefore allowing accommodation of existing structures and consequently increasing the chances of developing a wide ZMT. European levels must be inclusive and the development of a wide ZMT is the goal, therefore the general descriptors must be written in a way that invites accommodation of national systems.

The following table provides a framework with a set of general descriptors. It is based on the evidence summarised above. The TWG are invited to consider the likely effectiveness of the descriptors as the backbone of an inclusive European credit framework covering VET and higher education, distinguishing qualifications as the key transition points for mobility of learners and according to the distinctions present in national systems.

Table 5: Draft general descriptors for European reference levels

European reference level	Draft general descriptor
1	Learning normally acquired during compulsory education and considered as contributing to a general knowledge and development of basic skills. Learning is not usually contextualised in work situations.
2	Completion of compulsory education which includes an induction to work. Basic knowledge of work can be acquired at an educational establishment, in an out-of-school training programme, or in an enterprise. Generally it is not occupation-specific. The range of knowledge, skills and competences involved is limited. Qualification at this level indicates a person can perform basic tasks and exercise skills in a controlled environment. All action appears to be governed by rules defining allowable routines and strategies.
3	Completion of a basic vocational training qualification introducing the idea of job competence. It is normally considered part of upper secondary education. This qualification shows a person has basic skills suitable for many job functions and the capacity to carry out tasks under direction. Most action carried out by people at this level of qualification is deliberate repetitive application of knowledge and skills.
4	Qualification at this level normally includes upper secondary education and a work based training programme in an alternance or apprenticeship scheme and involves developing knowledge linked to a specific occupational field. People qualified at this level are able to work independently on tasks and have the capacity to apply specialist knowledge, skills and competences. They will have extensive experience and practice in both common and exceptional situations and be able to solve problems independently using this experience.
5	Completion of a main vocational training qualification such as apprenticeship or further education and training. This form of qualification involves significant theoretical knowledge and technical work that can be performed independently and entail supervisory and coordination duties. Qualification at this level indicates a person can deal with complex situations and their performance can be a benchmark for others. They will have considerable experience and practice across a wide range of work situations. This qualification level often bridges secondary and tertiary education and training.
6	Qualification at this level covers a high level of theoretical and practical knowledge, skill and competence, entailing mastery of the scientific basis of an occupation. Qualification at this level means a person can deal comfortably with complex situations, is generally autonomous and can assume design, management and administrative responsibilities. They are equivalent to the first Bologna cycle of higher education.
7	These qualifications recognise specialist theoretical and practical learning that is required for work as (senior) professionals and managers. People qualified at this level will have a breadth and depth of knowledge and be able to demonstrate high levels of specialist competence in an area. They will operate independently and supervise and train others where they can be inspiring. These qualifications are equivalent to the second Bologna cycle of higher education.
8	These qualifications recognise people as a leading expert in a highly specialised field dealing with complex situations and having the capacity for long-range strategic and scientific thinking and action. Such experts develop new and creative approaches that extend or redefine existing knowledge or professional practice and often teach others to be experts and masters. The qualifications are equivalent to the third Bologna cycle of higher education.

Having defined these eight levels, it should be possible to find a level for every major qualification in every country and in every sector. It should also be possible to identify a level for a period of well-defined experience of work. It is important to define the horizontal component of the proposed matrix approach so that all kinds of VET learning and achievement can be allocated to a level or , if applicable, a sublevel.

5.3.5. The horizontal dimension

The horizontal or qualitative dimension is the key area of responsiveness that will add specificity to the levels. It has to include the qualitative descriptors that will allow a person making use of the framework to identify where any kind of recognised VET learning is appropriately located. It will govern accessibility, flexibility and the notions of benchmarks and quality assurance. The further definition of the horizontal dimension is an important task for the TWG.

It is important to anticipate what kind of qualification users of the reference framework will want to find a level for. It is suggested, for the first phase, that only two qualitatively different dimensions are used:

(i) full qualification, partial qualification and units of assessment. This includes successful completion of a training programme or a distinct part of it;

(ii) experience of work in an occupation covering a specified minimum period of notional time.

These two dimensions can be extended or sub-divided at a later stage of reference level development. Three criteria should be developed to signal to users the nature of qualification that is expected to be matched to reference levels. These are broadly defined as follows:

- it is described in terms of learning outcomes;
- it is capable of being assessed;
- it is quality assured.

These dimensions are intended to be national system related, within each dimension we might anticipate elements that relate to the building blocks of these national systems. For example, for a training programme we might expect a specification to include details of knowledge and understanding to be learned, skills to be practised, competences to be acquired. Within the experience dimension we might expect to see a job profile, details of level of autonomy required and responsibility for the work of others.

These kinds of detailed specifications of knowledge, skills and competences have been researched as part of this project and are the subject of a forthcoming Cedefop research contract. In the next phase of this work each dimension could be defined in terms of such specifications.

It is now possible to create a matrix with the two qualitative dimensions as columns in the reference level framework. In each column of the horizontal component it should be possible

to produce a specific descriptor for each level to correspond with and extend the general descriptor for each level. It is proposed that the specific descriptors should include, as a minimum, the following four components at each level or sublevel:

(a) a description of the knowledge, skills and competences normally included in qualifications, e.g. outcomes of training programmes and corresponding generic job profiles;

(b) an indication of significant contextual features of qualifications and work such as complexity of sphere of application and level of initiative/creativity/problem-solving required, the level of independence in learning (managing learning, autonomy), roles in relation to others (managing others and teamwork skills);

(c) competences generally required by the qualification, training or work;

(d) the quality assurance processes normally associated with assessing and verifying the qualification, training and work.

The fourth point is different from the first three which are associated with outcome of qualification, training or work. The fourth is included because it signals that the qualifications to be matched should also have associated quality assurance processes. Without such a signal it might be difficult to develop a ZMT because users might sense that using the reference levels to equate qualifications across countries might carry too much risk. The quality assurance specification should leave scope for individual countries to define the detail; it should be specified in broad detail in relation to the reference level framework. A model of the proposed reference level framework follows on the next page (Table 6).

Table 6 Model of the proposed reference level framework

European reference level ([1])	**General descriptor**	**Dimension A qualification**	**Dimension B experience of work**
1	Learning normally acquired during compulsory education and considered as contributing to a general knowledge and development of basic skills. Learning is not usually contextualised in work situations.		
2	Completion of compulsory education which includes an induction to work. Basic knowledge of work can be acquired at an educational establishment, in an out-of-school training programme, or in an enterprise. Generally it is not occupation-specific. The range of knowledge, skills and competences involved is limited. Qualification at this level indicates a person can perform basic tasks and exercise skills in a controlled environment. All action appears to be governed by rules defining allowable routines and strategies.		
3	Completion of a basic vocational training qualification introducing the idea of job competence. It is normally considered part of upper secondary education. This qualification shows a person has basic skills suitable for many job functions and the capacity to carry out tasks under direction. Most action of people at this level of qualification is deliberate repetitive application of knowledge and skills.		

4	Qualification at this level normally includes upper secondary education and a work based training programme in an alternance or apprenticeship scheme and involves developing knowledge linked to a specific occupational field. People qualified at this level are able to work independently on tasks and have the capacity to apply specialist knowledge, skills and competences. They will have extensive experience and practice in both common and exceptional situations and be able to solve problems independently using this experience.		
5	Completion of a main vocational training qualification such as apprenticeship or further education and training. This form of qualification involves significant theoretical knowledge and involves mainly technical work that can be performed independently and entail supervisory and coordination duties. Qualification at this level indicates a person can deal with complex situations and their performance can be a benchmark for others. They will have considerable experience and practice across a wide range of work situations.		
6	Qualification at this level covers a high level of theoretical and practical knowledge, skill and competence, entailing a mastery of the scientific basis of an occupation. It means a person can deal comfortably with complex situations, is generally autonomous and can assume design, management and administrative responsibilities. Such qualification is equivalent to the first Bologna cycle of higher education.		
7	These qualifications recognise specialist theoretical and practical learning that is required for work as (senior) professionals and managers. People qualified at this level will have a wide breadth and depth of knowledge and be able to demonstrate high levels of specialist competence in an area. They will operate independently and supervise and train others where they can be inspiring. These qualifications are equivalent to the second Bologna cycle of higher education.		
8	These qualifications recognise people as a leading expert in a highly specialised field dealing with complex situations and having the capacity for long-range strategic and scientific thinking and action. Such experts develop new and creative approaches that extend or redefine existing knowledge or professional practice and often teach others to be experts and masters. The qualifications are equivalent to the third Bologna cycle of higher education.		

([1]) Training providers or bodies responsible for accreditation/assessment may subdivide a level into sublevels, e.g. partial, modal or exceeds.

6. Implementing the reference levels

6.1. Guidance on the reference level framework

The new reference levels have to be at the centre of a new ZMT that enables stakeholders with different interests and perspectives to feel confident in matching local qualifications to those in another country. One tool that may support the development of the new ZMT is a handbook or guidance manual that helps with interpretation of European reference levels to local qualification structures. The ISCED 97 Framework provides such guidance for users as does the European language framework. Many national frameworks also are accompanied by guidance documents. The production of such a handbook could form part of consultation and development that might be structured in the following way:

(a) step 1: European reference levels proposed;

(b) step 2: countries and professional bodies respond to the proposed levels and draft general descriptors and are invited to comment on how they relate to their existing frameworks;

(c) step 3: commentary from countries is used to refine levels and descriptors and create outline guidance as discussion documents;

(d) step 4: agreed European reference levels and descriptors launched;

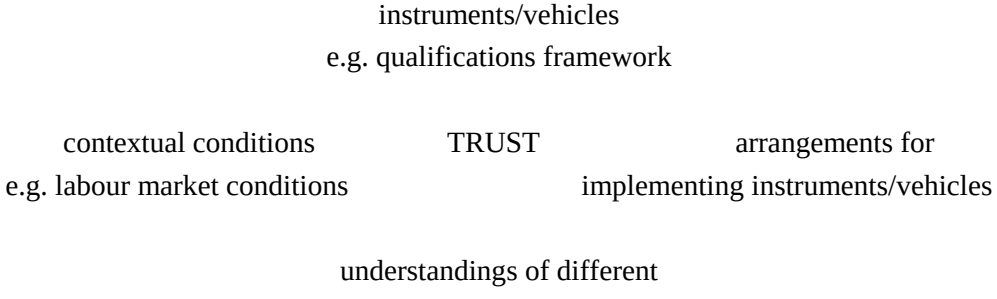
(e) step 5: countries and professional bodies invited to produce detailed guidance on the match between European reference levels and their own local frameworks;

(f) step 6: international guidance issued covering of the reference level and descriptor interpretation in different national settings.

This process is designed to demonstrate that the reference levels are an international reference document aiding European mobility of learners and people. Detailed interpretation and quality assurance is a matter for national bodies.

Arrangements for implementation need to include instruments that are linked to each part of the diagram included in section three and reproduced below. This is necessary if trust is to develop in the way that discussions in the TWG have indicated.

Figure 7: Zones of mutual trust



parties within the system

As ECVET develops, the guidance can be extended to explain such things as terminology used in the ECVET system, credit values, rules of combination of units and assessment criteria.

One specific issue is outstanding from the point of view of the reference levels for VET in Europe. This is the changing nature of the participants likely to engage with any reference framework. It is clear that bilateral arrangements are easiest to establish where there is a will for this to happen (GRE/ITA for recognition of qualifications, GER/AUS arrangements for mobility in apprenticeship). The EU15 is a very different scale of operation and even more so the EU25, offering 600 possible combinations of bilateral arrangements in these EU25 systems. ZMTs are therefore difficult to arrange and develop but crucial if a European labour market is to function. The strategic issue is whether it is better to start broad and to allow opt-in or to start specific with a series of bilateral arrangements and allow generalisation (and trust) to develop?

6.2. Quality assurance issues

The research has not focused on quality assurance issues, though we do refer to the discussions and decisions of the technical working group on quality in VET that is developing principles for QA systems. A more in-depth look at the outcomes is required during the next stage of the development of ECVET. Huge logistical benefit will arise if the reference levels and the consequential ECVET credit framework develop from trust situations. Once a soundly argued case for reference levels and ECVET has been accepted, evidence of framework development suggests the focus will shift to quality assurance mechanisms. For this reason we have argued for a specific place for QA references in the specific level (and sublevel) descriptors (see earlier). We believe that the place for more specific level-related work on quality assurance is best left to national and sector experts. However the TWG, the technical working group on quality, as well as Bologna-related work for HE will need to provide guidance on standards of QA expected of qualification developers and evaluators.

Through exploring existing ZMTs and levels frameworks we can outline the following points.

The mere existence of a levels framework is insufficient; even with the existence of (sectoral/national/transnational) frameworks and listings of recognised qualifications, decisions still need to be taken, by someone or some body, as to whether any given qualification or body of experience matches the stated requirements (e.g. of a specific level in the framework). Assigning qualifications, experience, etc. to levels in the framework is a necessary activity; the precise form of the administrative apparatus for doing this needs to be established. Is it to be sectorally-based? Are sector-based bilateral arrangements adequate? The process may require national mechanisms and their networking at European level to build ZMTs more permanently and in a sustainable way.

Criteria need to be established (by mutual consent between responsible bodies in different nations, countries, or by regulation?) regarding the forms of assessment which are considered both legitimate (of suitable validity) and administered effectively (of suitable reliability) in relation to specific outcomes.

Decisions also need to be taken in respect of the forms of (and mechanisms for) public accountability and openness in arrangements for assigning qualifications to levels. In formal arrangements these will relate to licence to practise (backed by legislation); they might be imposed on highly informal ZMTs which have arisen through short-term labour requirements (skills shortages/gaps).

6.3. Problems with existing ZMTs

The establishment of a ZMT for VET and qualification will require some sort of definition of volume of training or learning. In HE, quantification of workload was the prime variable and agreements were struck because a means of quantification (a fairly rough one) was defined and promoted. Incentives to participate drew on this definition. It will be harder to define workload - or its equivalent - for VET.

Our review of literature on ECTS and similar systems suggests that a VET credit system may be adversely affected by a number of problems.

First is the desire of industry, national governments, etc. to reduce bureaucracy but also to have sufficient formal assurances regarding quality of assessment. There is an associated problem that formal administrative systems often are required to support ZMTs - such as ECTS - but that these systems can become static and fixed, and thus a limit on the development of ZMTs. Also, despite progressive aspirations, they can be linked with, and reproduce, existing forms of market organisation (Delisle and Ryan-Bacon, 2001; Sullivan, 2002).

Similarly, the way in which ZMTs have sprung up in specific occupations and arrangements have been put in place (e.g. bilateral agreement between Canada and France in respect of engineering) to facilitate recognition, tend to be occupationally-specific. This again places restrictions, limiting the arrangements to specific occupations or sub-occupations, when arrangements could operate across wider areas (Jeffries and Evetts, 2000).

The persistence of stereotypes regarding the superiority of certain forms of learning over others (traditionally expressed in the form of ‘the academic/vocational divide’) is a further problem. So is the association of certain groups with certain types of employment (e.g. functions in the care profession being associated particularly with females; functions in construction being associated with males, etc.) and of the kind of experiences which prepare people for specific roles (Clayton, 2000).

Finally there are the highly varied ways in which national context impinges on the existence and operation of ZMTs, regarding the state of development of the labour market, form of society; and state-labour market relations (regulation, etc.). There is also the relative dependence on formal assessment and certification and the relative predilection of national administrations to intervene and create bureaucracy (Di Francesco, 2004; Brown and Keep, 1999; Kivineno and Nurmi, 2003).

Literature also suggests assessment processes will be problematic. Assessment needs to be understood as more than a procedure; there are cultural differences in the way people in different countries perceive and react to assessment. This raises a set of key questions for the operation of ZMTs:

(a) what are the rules in a ZMT? Is there a formal list that is given status by legislation (e.g. on license to practise)?

(b) how open or closed are informal and formal lists; do they emphasise general credit or specific credit?

(c) who decides on admitting a qualification to a list, or that a given qualification will give admission to employment or learning programmes?

(d) who provides the evidence or undertakes the investigation of the worth of a qualification; in some countries, there are research units (such as the United Kingdom NARIC (national academic recognition information centre); which support this function?

(e) even with the existence of (sectoral/national/transnational) frameworks and listings, decisions still need to be taken, by someone, as to whether any given qualifications or body of experience matches the stated requirements. What national arrangements should exist to deliver decisions on transnational frameworks?

(f) what information exchange is there between organisations holding different lists? Do contradictions of status, worth, etc. exist where different sector bodies treat the same qualification(s) differently? In other words, do the institutional boundaries between bodies create inefficiencies and contradictions in the patterns of mutual trust in a labour market or education system?

(g) what levels of accountability and openness are present in formal arrangements relating to licence to practise (backed by legislation) and, by contrast, in informal ZMTs which arise through short-term labour requirements (skills gaps/shortages)?

7. Further considerations for the TWG

Through its work in reviewing literature, examining policy and practice, and working with technical specialists, the project team has identified the following emerging issues as areas which would benefit from further research and development work, and from the attention of policy-makers.

7.1. Development of a technical manual for the proposed levels

The application in national systems of the proposed system requires consistent interpretation of the levels, clear examples of precedent, and a systematic approach to analysing qualifications/programmes in relation to the levels. The proposed new framework requires an accompanying technical manual, using an approach similar to the manual accompanying the ISCED framework. This is beyond the scope of the current project. The project team considers the development of such a manual to be essential for effective implementation, in national settings, of any revised arrangements.

7.2. Establishing links between levels and credit systems

Emerging credit systems in EU States are typically dependent on a framework of levels. The growing importance of credit (often associated with policy aspirations relating to opening of access to education and training, to increased recognition, to flexibility and to coherence) means that it is essential to explore and establish clearly the link between credit accumulation and the proposed revised levels.

7.3. Administrative mechanisms and tools to support revised levels

Any framework of levels and associated zones of mutual trust require supporting administrative arrangements, for example, relating to assignment of qualifications, etc. to levels, bilateral and multilateral discussions relating to labour market regulation and links to qualifications. Both national and EU administrations need to consider the policy of active intervention/support in relation to zones of mutual trust. This applies particularly to principle and precedent regarding when it is both justified and useful to intervention in, and/or support, specific zones of mutual trust, or - by contrast - take deliberate decisions to leave well alone when they are operating effectively without intervention and/or support.

7.4. Evaluation and monitoring

The way in which the revised levels operate should be examined, in particular in relation to enhanced transparency, increasing mutual trust, and enhanced access to learning and employment. This should include monitoring of impact using a series of defined performance measures, linking to EU policy imperatives.

Annex 1
ISCED 97

International standard classification of education (ISCED), Unesco				
Proxy criteria for contents			**Code**	**Complementary dimensions**
Main criteria	**Subsidiary criteria**			**Name of the level**
Educational properties school or centre-based minimum age upper age limit	Staff qualification		0	
Beginning of systematic apprenticeship of reading, writing and mathematics	Entry into the nationally designated primary institutions or programmes, start of compulsory education	Primary education first stage of basic education	1	Pre-primary education
Subject presentation full implementation of basic skills and foundation for lifelong learning	Entry after some six years of primary education, end of the cycle after nine years since the beginning of primary education, end of compulsory education, several teachers conduct classes in their field of specialisation	Lower secondary education second stage of basic education	2	Type of subsequent education or destination programme orientation
Typical entrance qualification minimum entrance requirement		(Upper) secondary education	3	Type of subsequent education or destination programme orientation cumulative duration since the beginning of ISCED level 3
Entrance requirement, content, age, duration		Post-secondary non tertiary education	4	Type of subsequent education or destination, cumulative duration since the beginning of ISCED level 3 programme orientation
Minimum entrance requirement, type of certification obtained, duration		First stage of tertiary education (not leading directly to an advanced research qualification)	5	Type of programmes cumulative theoretical duration at tertiary national degree and qualification structure
Research oriented content, submission of thesis or dissertation	Prepare graduates for faculty and research posts	Second stage of tertiary education (leading to an advanced research qualification)	6	None

Annex 2
ISCO and ISCED levels

ISCO skill level	ISCED categories
First skill level	ISCED category 1, comprising primary education which generally begins at ages five-seven years and lasts about five years.
Second skill level	ISCED categories 2 and 3, comprising the first and second stages of secondary education. The first stage begins at the age of 11 or 12 and lasts about three years, while the second stage begins at the age of 14 of 15 and also lasts about three years. A period of on-the-job training or experience may be necessary, sometimes formalised in apprenticeships. This period may supplement the formal training or may replace it partly or, in some cases, wholly.
Third skill level	ISCED category 5 (category 4 has been deliberately left without content) comprising education which begins at the age of 17 or 18, lasts about four years, and leads to an award not equivalent to a first university degree.
Fourth skill level	ISCED categories 6 and 7, comprising education which begins at the age of 17 or 18, lasts about three, four or more years, and leads to a university or postgraduate university degree or the equivalent.

Annex 3
European training levels, 1985

Level 1

Training providing access to this level: compulsory education and professional initiation. This professional initiation is acquired at an educational establishment, in an out-of-school training programme, or at the undertaking of the individual. The volume of theoretical knowledge and practical capabilities involved is very limited. This form of training must primarily enable the holder to perform relatively simple work and may be fairly quickly acquired.

Level 2

Training providing access to this level: compulsory education and vocational training (including, in particular, apprenticeships). This level corresponds to a level where the holder is fully qualified to engage in a specific activity, with the capacity to use the instruments and techniques relating thereto. This activity involves chiefly the performance of work which may be independent within the limits of the relevant techniques.

Level 3

Training providing access to this level: compulsory education and/or vocational training and additional technical training or technical educational training, or other secondary level training. This form of training involves a greater fund of theoretical knowledge than Level 2. Activity involves chiefly technical work which can be performed independently and/or entail executive and coordination duties.

Level 4

Training providing access to this level: secondary training (general or vocational) and postsecondary technical training. This form of training involves high-level technical training acquired at or outside educational establishments. The resultant qualification covers a higher level of knowledge and of capabilities. It does not generally require mastery of the scientific bases of the various areas concerned. Such capabilities and knowledge make it possible in a generally autonomous or in an independent way to assume design and/or management and/or administrative responsibilities.

Level 5

Training providing access to this level: secondary training (general or vocational) and complete higher training. This form of training generally leads to an autonomously pursued vocational activity - as an employee or as self-employed person - entailing a mastery of the scientific bases of the occupation. The qualifications required for engaging in a vocational activity may be integrated at these various levels.

Annex 4
Jaques' levels of task complexity and types of thinking

Levels of task complexity, adapted from Jaques (1996)

Demand of task	Task complexity	Thinking and acting
Level 7	Strategic options, alternative routes, transform operating systems	They must pursue alternative big plans producing business units by development, acquisitions, mergers or joint ventures drawing on internationally sources financing. They use conceptual abstract information complexity and serial pathway construction and achievement.
Level 6	Data accumulation in overview and diagnosis	They develop networks to accumulate diagnostic information and create a friendly environment making it possible to judge corporate investment priorities to enhance the value of corporate assets in the balance sheet and to contribute to corporate success and survival. They use cumulative processing of conceptual abstract complexity.
Level 5	Practical judgement of consequences of changes	They can cope with a means of direct action with a constantly shifting kaleidoscope of events and consequences of far too many variables to map on a project chart. They sense interconnections between variables in the organisation and the environment and continually adjust them in relation to each other with a sensing of all of the second and third order effects. They use declarative processing of conceptual abstract complexity.
Level 4	Parallel processing and trading off	They can parallel process several interacting projects, pacing them in relation to each other in resources and time. They can do trade offs between tasks to maintain progress along the composite route to the goal. They use symbolic verbal information complexity, parallel processing.
Level 3	Construct alternative routes to goals	They use direct action plus diagnostic accumulation but also must be able to encompass the whole process within a plan that has a pathway to goal completion that you have already worked out. They must be able to devise alternative plans if need be. They use symbolic verbal information complexity, serial processing.
Level 2	Data accumulation and diagnosis	They not only overcome immediate obstacles by direct action but also are able to reflect on what is happening so that obstacles can be anticipated. They accumulate and consciously sort data to diagnose problems and prevent others from occurring. They use symbolic verbal information complexity, cumulative processing.
Level 1	Direct judgement	Individual follows a linear pathway to a goal getting continual feedback to proceed and using previously learned methods for overcoming immediate obstacles or reporting back. They use symbolic verbal information complexity, declarative processing.

Types of thinking

Type	Description
Declarative processing	Gives several entirely separate reasons for something.
Cumulative processing	Gives several different reasons for something which are presented as having weight when taken together.
Serial processing	Gives a line of thought made up of a sequence of reasons, each one leading to the next, thus creating a reasoning chain.
Parallel processing	Several lines of thought are held in parallel and can be linked together at several points so that evidence from one line can bolster another to support a favoured outcome.

Annex 5
An adapted Dreyfus' 'ladder of competence'

Level	Description	Description learning modes (% embodiment)*	Software engineering examples
Novice (beginner)	Just getting started in the domain. All action appears to be governed by rules defining allowable moves and strategies. Common situations are unfamiliar and are described by more rules.	Memorisation, drill, and simple practice. Demonstrations of play. Practice in simple situations (0 %).	Starting programmer. Focuses on syntax, compilation, simple debugging. Basic concepts of objects. Basic algorithms. Basic programme design, software methods.
Advanced beginner (rookie)	Recognises common situations that help in recalling which rules should be exercised. Most action is deliberate application of rules or conscious recall of prior actions in the familiar situations. Can perform simple actions for customers; needs supervision for more complex tasks.	Problem solving and practice with rules and strategies. Play in realistic situations with supervision. Repeated practice with common situations (30 %).	Comfortable with syntax. Composes basic programs to solve problems up to several pages and tens of modules. Can write simple programs for customers. Works well with direction.
Professional (competent)	Carries out standard actions without causing breakdowns. Can fulfil standard promises to customers satisfactorily without supervision. Performs most standard actions without conscious application of rules. When faced with a new situation, works out appropriate actions by application of rules.	Advanced problem-solving, coaching on problem solving and projects. Extensive practice in both common and exceptional situations. Apprenticeship to more advanced professionals and teams. Membership in professional networks (60 %).	Skilled in multiple languages. Deals with programs of hundreds of modules. Designs systems and test protocols, integrates components. Helps customers solve system design and configuration problems. Can work in teams and with customers. May be a team leader.
Proficient professional (star)	Deals with complex situations effortlessly. seldom thinks in terms of rules and may have some difficulty telling others what rules he or she works with. Appropriate action appears to come from experience and intuition, and is deliberately chosen. Individual performance is a benchmark for others. Considerable experience and practice across a wide range of situations over years of work.	Apprenticeship to experts. Coaching. Putting self into wide range of situations. Membership and contribution to professional networks. Teaches others (80 %).	Highly productive. Designs and manages complex systems. Ingenious solutions. Clear code. Excellent problem-solver. Productivity much higher than average. Receives positive assessments from customers and other professionals.

Expert (virtuoso)	Consistently inspiring and excellent performances. Appears to solve difficult, complex problems effortlessly. Enormous breadth and depth of knowledge. Acts appropriately without thought or conscious choice of actions. Routinely forms and leads high-performance teams; admired by others as a benchmark of team performance. Performance standards are well beyond those of most practitioners.	Apprenticeship to masters. Advanced coaching, development of breadth, focus on observing and adopting style of the teacher. Teaches others. Years or decades of practice (95 %).	Extensive experience with large systems. Anticipates subtle and indirect design issues. Anticipates and responds to customer concerns. Leads teams well. High productivity. Solves difficult configuration and performance problems quickly.
Master	Capacity for long-range strategic thinking and action. Sees historical drifts and shifting clearings. Has studied with many different teachers and has developed own distinctive style. Has produced innovations in the standard practices of others, altered the course of history in the field, and knows how to do this again. Teaches others to be experts and masters.	Learning continues by working with other masters as teachers. Creates and leads professional networks. Teaches others (100 %).	Develops new methods and practices for the field. Admired for long, historical perspectives and strategies.
Legend	Has attained high public standing with almost mythical status as a master and performer. Leverages public standing to achieve results only public figures could attain. Work has widely accepted impact.	Same as for master with emphasis on public appearance (100 %).	Widely admired software engineer who publicly set the pace for everyone else. His or her articulations shape the direction of the field.

The percentage figures given refer to the notion of embodiment, which can be understood as a readiness for application or competence that draws on knowledge and skills and turns them into immediate effective practice. Peter Denning offers this notion in support of the theories of Dreyfus on the relative inadequacy of computers and distance learning for top professionals.

Annex 6
Reference levels for language development

Basic levels	Second range of levels	Illustration of level using spoken language
Basic user	Breakthrough	Simple words and phrases to describe where I live and people I know
	Waystage	Series of phrases and sentences to describe family, people, living conditions, education and job.
Independent user	Threshold	Connect phrases to describe experiences and events, dreams hopes and ambitions. Give reasons for opinions and plans. Narration of a story.
	Vantage	Detailed description of a wide range of subjects. Explain a viewpoint on a topical issue and give details of various options.
Proficient user	Effective operational proficiency	Clear, detailed description of complex subjects, integrating sub themes, developing particular points and rounding off with a conclusion.
	Mastery	Clear, smoothly flowing description or argument in a style appropriate to context and with a logical structure that helps the listener appreciate and remember significant points.

Annex 7
Interskills levels

Occupational outcome	includes
Semi skilled worker	
Skilled worker	Craftsperson or tradesperson
Technician	Supervisory, technical assistant, advanced craftsperson
Higher technician	Master craftsperson, associate or paraprofessional

Annex 8
Level characteristics for IT training, Fachhochschulen, Baden Würtemburg

Main level descriptor	Sublevels	Example text (sampled from the 4 levels)
Operative context	Context characteristics	L1: defined context requiring application of standardised methods
	Level of autonomy	L4: complex, unexpected and normally specialised requiring innovative work
	Ethical understanding	L3: recognition of personal responsibility and professional ethical principles
Cognitive descriptive characteristics trainees	Knowledge and understanding	L2: process detailed knowledge of one (or more) areas of information technology
	Analysis	L4: able to cope with complexity, gaps or contradictions in basic knowledge
	Synthesis/creativity	L3: can transfer abstract data and concepts to a particular situation and design innovative solutions with little direction
	Evaluation	L1: can evaluate reliability of data with defined methods
Additional transferable skills trainees	Problem solving	L3: can confidently recognise and define complex problems with flexibility
	Planning and organising training	L2: procure access to training resources and make use of them
	Communications and presentation	L1: can communicate in a form appropriate to discipline and honour commitments to others
	Self assessment practice reflection	L4: feels part of a scientifically oriented community. Habitually reflects on own and others practice to improve personal performance

Annex 9
Formal national qualifications frameworks studied as part of the project

1. Australia

Diagram of Australian qualifications framework (AQF) ([5])

Schools sector	Vocational education and training sector	Higher education sector
		Doctoral Degree Masters Degree Graduate Diploma Graduate Certificate Bachelor Degree Advanced Diploma Diploma
Senior secondary certificate of education ([1])	Advanced Diploma Diploma Certificate IV Certificate III Certificate II Certificate I	

([1]) The senior secondary certificate of education is referred to by local titles at a state and territory level for example.

1.1. What is the AQF?

The AQF acts as a policy instrument that links together the above qualifications and provides an assured national system of qualifications. It allows for flexibility for learners to plan their careers.

The framework was introduced across Australia on 1 January 1995 and was phased in over five years, with full implementation achieved by 2000 ([6]).

([5]) Diagram and other information in this section obtained from the Australian qualifications framework advisory board website www.aqf.edu.au/aboutaqf.htm

1.2. Rationale and objectives of the AQF

The AQF is intended to promote lifelong learning; it helps users find their way through the qualifications system. This is seen as important as the gradual disappearance of unskilled work has made it necessary for people to add to their skills throughout their working lives. The AQF combines work based and academic qualifications in one framework, to ensure flexibility in career planning.

1.3. Key objectives

The AQF should:

- provide nationally consistent recognition of outcomes achieved in post-compulsory education;
- help with developing flexible pathways which assist people to move more easily between education and training sectors and between those sectors and the labour market by providing the basis for recognition of prior learning, including credit transfer and work and life experience;
- integrate and streamline the requirements of participating providers, employers and employees, individuals and interested organisations;
- offer flexibility to suit the diversity of purposes of education and training;
- encourage individuals to progress through the levels of education and training by improving access to qualifications, clearly defining avenues for achievement, and generally contributing to lifelong learning;
- encourage the provision of more and higher quality vocational education and training through qualifications that normally meet workplace requirements and vocational needs, thus contributing to national economic performance;
- promote national and international recognition of qualifications offered in Australia.

1.4. Learning pathways

AQF qualifications link with each other in a range of learning pathways between schools, vocational education and training providers and universities as needed by learners. The AQF makes a specific commitment to flexible, transparent and systematic learning pathways and to the removal of boundaries between educational sectors. It therefore supports cross sectoral link programs such as:

([6]) It should be noted that there are a few RATE certificates in HE which are not covered by the AQF. There are also a small number of associate degrees which are not included as they are not widely offered nor are they nationally consistent.

- VET in schools, which allows schools across the country to offer industry based units of learning that can contribute to both the senior secondary certificate of education and certificate I-IV qualifications;
- articulation and credit transfer arrangements between registered vocational education and training providers and universities, involving efficient articulation of programmes and maximum credit transfer;
- recognition of prior learning, by which credits are granted towards qualifications through assessment of an individual's knowledge and skills gained through education, training, work and life experience.

The pathway from university to vocational education and training qualifications is becoming increasingly popular as a way of gaining industry experience needed to increase employment opportunities.

1.5. Recognition of prior learning

Recognition of prior learning (RPL) allows a person to receive recognition and credit for the knowledge and skills they have, no matter how and where they were attained, including overseas. This can include skills from:

- previous study (including courses at school or college, through adult education classes or training programmes at work);
- work experience (including both work that is paid and unpaid);
- life experience (such as leisure pursuits or voluntary work).

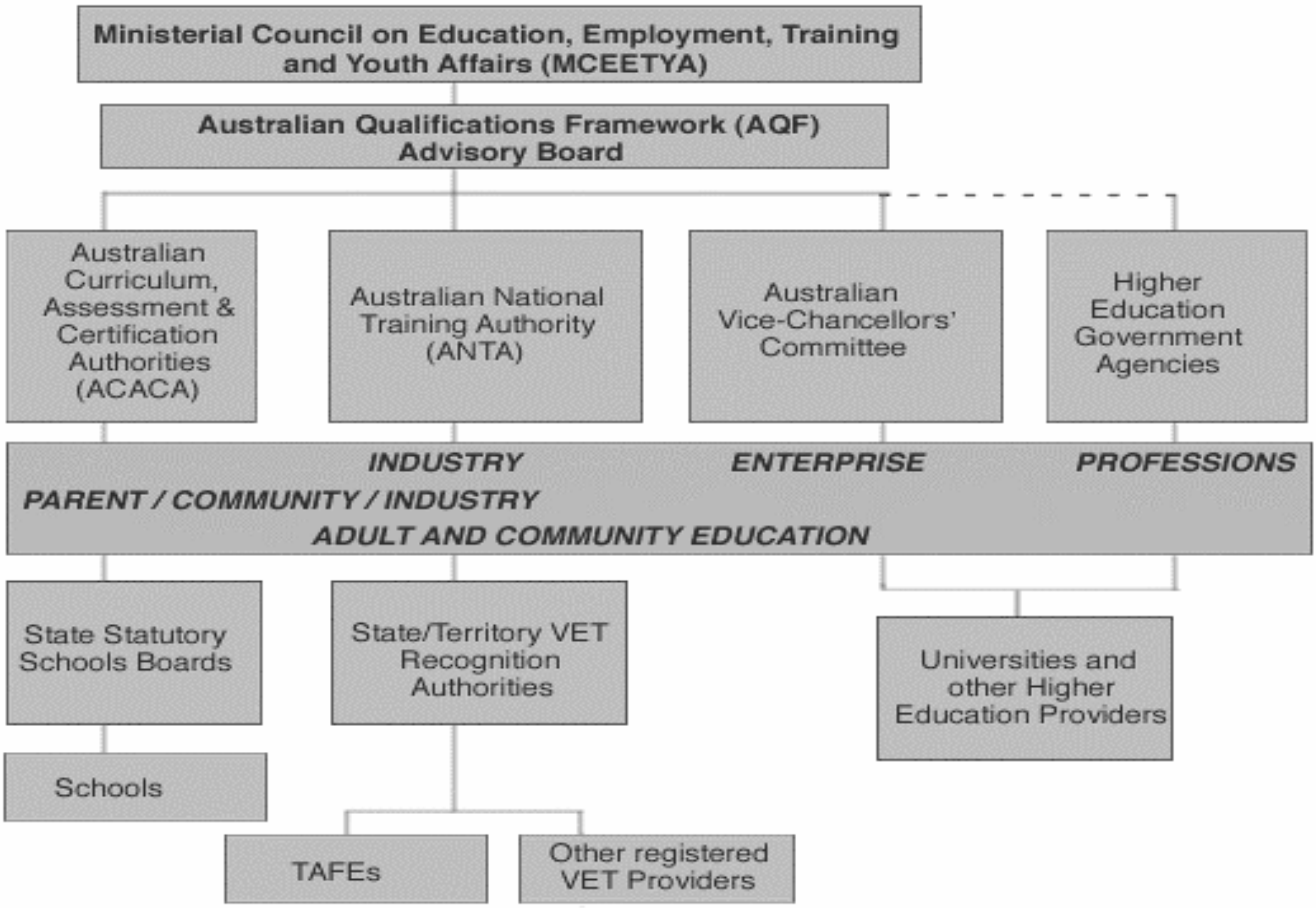
What matters in obtaining recognition of prior learning is that the knowledge and skills learners have gained help to meet the learning outcomes and assessment criteria of the qualification for which they are seeking credit. In the VET sector, RPL assessment can result in a full qualification or a statement of attainment for partial completion.

1.6. Levels and level descriptors

There are no numbered levels within the AQF. Instead of a levels structure there are qualifications guidelines that define the level of a qualification in terms of its characteristics of learning outcomes and pathways to attain it. For example, the diploma and advanced diploma qualifications which are located in both the higher education and vocational education and training sectors are determined to be equivalent because they have common learning outcomes and thus share the same title, irrespective of different delivery methodologies/educational programmes in each sector.

1.7. Stakeholders and the grounds for inclusion of qualifications

Figure 8: Cross sectoral support for the AQF



The above diagram details the main stakeholders in this system. The AQF is a consensus policy instrument that relies on the regulatory frameworks within the three sectors for operational implementation and regulation. Each sector authorises its own qualifications and has responsibility for primarily offering, protecting and setting standards for a qualification, supplemented by the AQF. Thus the AQFAB ([7]) does not itself accredit qualifications but works through the regulatory mechanisms that exist within the sectors. The system is further decentralised because of the status of Australia as a country of federated states; various educational responsibilities are divided between the states and territories and the Commonwealth (federal) government. The AQF seeks to ensure that there is a national system of qualifications overarching these decentralised responsibilities. Therefore, for the senior secondary certificate of education qualification, the main stakeholders are the various

([7]) Australian qualifications framework advisory board.

schools boards in each state and territory. Within the vocational and educational training sector, the main stakeholders are the national VET body, the Australian national training authority (ANTA), supplemented by the state/territory training boards that oversee registration for delivery and do some accrediting against the AQF outside the national training packages that ANTA develops.

Industry (and the unions and employer bodies) are also major stakeholders given that the vocational qualifications are developed against industry-driven competences.

In the higher education sector, universities are self-accrediting, but the vast majority of their offerings are AQF qualifications; the Australian vice chancellors' committee is the peak agency for all Australian universities. There are also a small number of higher education qualifications accredited by the government in the various states/territories and therefore these HE agencies stakeholders are consulted regularly. The AQFAB comprises representatives from each of these sectors and stakeholders and reports to the overarching national body with responsibilities for all education: the state, territory and Commonwealth ministers of education, training, employment and youth affairs (MCEETYA).

2. New Zealand

2.1. What is the national qualifications framework?

The National qualifications framework (NQF) has been in development since 1990 and is a system designed to recognise the attainment of knowledge, understanding and skills by everyone in New Zealand. It is a structure designed to bring coherence to qualifications, which are quality assured and nationally recognised. Learners can register on the framework and are able to accumulate credits over time and at their own pace as they work towards a qualification. The NQF qualifications are defined in terms of learning outcomes and credit totals.

2.2. Rationale and purposes of the NQF

The New Zealand Qualifications authority states that the NQF is a means by which national qualifications have a high credibility both throughout New Zealand and overseas, and are related to each other in ways that assist people to upgrade their qualifications without having to repeat unnecessarily previous study and assessment.

Also, the NQF allows for the recognition of the traditional knowledge of New Zealand's indigenous people, the Maori. Maori experts are involved in the development of unit standards in fields of practice such as Reo Maori (Maori language) and Whakairo (carving). In the past these subjects have been viewed as 'hobbies' or 'recreational activities'.

Maori experts are also involved in the development of unit standards that provide a Maori dimension to general subjects such as business and management, tourism and so on.

The framework encourages lifelong learning, so that people may manage career changes.

For learners generally, the framework offers ([8]):

- choice and flexibility in what, where and how to learn;
- clear understanding of what is needed to succeed in studies or careers;
- formal recognition of skills and knowledge;
- nationally recognised qualifications.

For learners in the workplace it allows them to:

- earn while they learn new skills;
- achieve a portable qualification that is nationally and internationally recognised;
- work alongside experienced and qualified staff;
- achieve formal recognition of skills and knowledge.

For employers it allows:

- the design of education and training by industry for industry;
- training responsive to new markets, products, services and technologies;
- a more skilled and adaptable workforce;
- training employees within their own company systems;

For education and training providers it offers the opportunity to:

- develop appropriate curriculum and programmes for different learning styles and needs;
- offer nationally recognised programmes and qualifications;
- develop a greater working relationship with industry;
- create pathways from one programme to another.

([8]) Quoted from the leaflet *National qualifications framework - National recognition for your skills and qualifications* published by the New Zealand qualifications authority, reorder number 002.

2.3. Grounds for including qualifications

The central feature of the qualifications framework is that all qualifications are now based on defined and accepted national standards. The standards development process was a massive undertaking involving extensive consultation and partnerships with industry, schools, tertiary providers and government agencies. For each area of skills and knowledge, a skills analysis was completed and standards developed and packaged into qualifications. This drafting and consultation process, although onerous, ensured that the standards and qualifications developed were appropriate to the needs of each industry or field of knowledge.

About 10 years ago, New Zealand's qualifications system was a source of frustration for learners. Local qualifications were often non-transferable between industries or institutions, there was little consistency in the naming of qualifications and several sectors had no means of formally recognising people's skills. The introduction of framework standards and qualifications has given learners national recognition for their achievements and qualifications that are truly portable.

All qualifications currently registered on the framework are composed of registered unit standards, statements that describe what a learner knows or can do. Because the unit standards are nationally agreed, learners' achievements can be recognised in several contexts. Their knowledge and skills will be transferable between qualifications and providers.

Standards specify learning outcomes. Having qualifications based on learning outcomes is what makes framework qualifications different from other qualifications systems (which are often focused more on outputs such as courses, or inputs such as curricula or teaching hours). Outcomes models have been endorsed by international bodies involved with funding education systems (e.g. the World Bank, Asian Development Bank and the OECD).

The framework is built on a process of consensus. Standards are drafted by expert groups (engineers for engineering standards, geographers for geography standards and so on). The draft standards are then circulated to stakeholders for comment and contribution. Once standards are agreed to and registered, they are subject to review by stakeholders and experts on a regular basis. This allows for standards to be refined and updated over time.

Each unit standard has a defined credit value and sits at a specified level in the framework. Credits may be accumulated from different learning institutions or workplaces towards a single qualification. All organisations accredited to assess against standards recognise framework credits awarded by others.

2.4. Levels

Level	Qualification	
10	Doctorates	Post graduate degrees
9	Masters degrees	
8	Post graduate degrees/diplomas Honours degrees	Degrees
7	Initial, undergraduate degree	
6	Technician/paraprofessional	National diplomas
5		
4	Skilled trade	National certificates
3	Semi-skilled trade	
2	Introductory trade	
1	Basic introductory trade	

The framework has 10 levels. Level 1 is entry level education and training, broadly comparable to Year 11 studies. Levels 1-4 are national certificate level. Levels 5-7 are at national diploma level and Level 8 is other degrees: higher certificates and diplomas.

However, a new qualification is being introduced into the framework from 2002, the national certificate of educational achievement (NCEA). It is set to become the national qualification for all year 11 students. The NCEA level 1 replaced the current school certificate in 2002. In 2003 NCEA level 2 replaced the sixth form certificate and in 2004 NCEA level 3 will replace the university bursary examination.

The NCEA will use set standards to show what students know and can do. Every standard is worth a set number of credits. Learners will collect credits when they have achieved the standard set for a credit grade. The credits are like points towards a qualification. When learners have a total of 80 credits, then they have gained a national certificate of educational achievement. The students who enrol on the qualifications framework will receive an updated record of their achievements every year in which they gain credit. Students will also be issued with a unique PIN, which will allow them to access and print off copies of their records from the Internet.

2.5. Stakeholders

The New Zealand Qualifications Authority manages the framework, the registration of both learners and providers, and also provides a quality assurance service for qualifications by maintaining processes to accredit qualifications ([9]). The list of approved qualifications is the national register of quality assured qualifications and aims to show the relationship between qualifications and to make credit transfer easier to manage for learners and providers.

Providers are also an important element of the framework. A provider can be any individual organisation supplying education and/or training and/or assessment services.

All providers have to be accredited to assess for the award of credit towards national qualifications framework qualifications. Before applying for accreditation, private and government training establishments must be registered with the qualifications authority.

Providers include schools, polytechnics, universities, *wananga* and private and government training establishments.

Providers can only be accredited to the NQF if they fulfil quality requirements to prove they have the tutors, resources and equipment to run their programmes.

Industry training organisations (ITOs) develop standards and national qualifications for specific industries and professions. They are responsible for about half the standards on the framework.

For employers, the qualifications are a guarantee of what their employees can do. Since many of the qualifications are developed by industry for industry, employers can feed into the process of designing standards.

Learners have a great stake in the success of the qualifications framework. They have to sign up to register and then work towards the qualifications on the framework.

3. Ireland

3.1. Framework diagram ([10])

Legislation has recently been enacted providing for a national framework of qualifications in Ireland.

([9]) Quoted from the leaflet *National qualifications framework - National recognition for your skills and qualifications* published by the New Zealand qualifications authority, reorder number 002.

([10]) Diagram sourced from www.eures-crossborder.org, a website which details qualifications from R.o.I and N.I.

This diagram outlines an estimate ([11]) of the qualifications arrangements which were in place prior to the establishment of the act and their approximate relationship to each other, this is likely to change.

Table 7: Framework diagram

Qualification level	Level
Degree/postgraduate	5
National diploma ([1])	4
National certificate ([2]) Leaving certificate ([3]) Leaving certificate applied National vocational certificate - level 2 National craft certificate Senior trade certificate	3
Post leaving certificate course (PLCs) junior certificate National vocational certificate - level 1	2
National foundation certificate	1

([1]) Validated by the national council for education awards.
([2]) Validated by the national council for education awards
([3]) Validated by the department of education.

3.2. What is the qualifications framework/system? ([12])

This national framework of qualifications is still under development. The qualifications (education and training act 1999) provided for the setting up of the national qualifications authority of Ireland (NQAI), which was established in February 2001. It will be the task of the authority to establish, monitor and maintain the framework.

3.4. Rationale and main purposes

The principal aims of the qualifications (education and training) act and of the development of a national framework are:

- to establish and develop standards of knowledge, skill or competence;
- to promote the quality of further education and training and higher education and training;
- to provide a system for coordinating and comparing education and training awards;
- to promote and maintain procedures for access, transfer and progression.

The individual student is central to the thrust and purpose of the act. There is a very broad definition of a learner in the act and this is one of the most important aspects of the legislation. A learner can be someone in an educational or training institution or involved in

([11]) It should be noted that this diagram is an approximation for illustrative purposes only, the relative relationships and weightings of awards have never been formally done in the Ireland.

([12]) Information in this and the following sections courtesy of the National qualifications authority of Ireland.

what might be described as formal learning situations. Furthermore a learner is any person who is acquiring or has acquired knowledge, skill or competence regardless of how, when or where that takes or took place. Learners, therefore, may be students in educational institutions, workers in the workplace, participants in community activity or independent learners.

The national qualifications authority of Ireland is now commencing the preparation of a position/issues paper on developing a national framework of qualifications which will then be the subject of national and international consultation. It is envisaged that the document will concern the nature of the policies and criteria on which the framework shall be based, what steps need to be taken in the development of a framework, what the nature of the framework should be and how will it operate. It is further envisaged that the paper will concern the nature of the procedures for access, transfer and progression that the authority is to determine and how the procedures should operate. It is hoped that the paper will be published by the end of the year. Following further consideration and consultation, the authority then aims to develop the framework of qualifications itself.

3.5. Grounds for inclusion of qualifications

The national qualifications authority will work alongside the new awards councils that were established in June 2001 (the further education and training awards council and the higher education and training awards council).

These new councils will make national awards available for all education and training in the state, other than that provided in the primary and post-primary sectors, the Dublin institute of technology, and the universities.

In addition, the act provides for delegation of authority to make higher education and training awards to other institutes of technology and to make further education and training awards to FÁS, CERT and Teagasc (the state training providers in industry generally, tourism and agriculture, respectively).

Any provider of education and training, regardless of the source of that provision, whether it is in an educational institution, the workplace, or the community, will be able to apply to either of the two new councils for validation of a programme. Section 8(2)(c) of the 1999 act sets out that the authority:

‘… shall establish, in consultation with the further education and training awards council and the higher education and training awards council, procedures for the performance by them of their functions and shall review those procedures from time to time …’

There was a need for the authority to establish procedures for the performance by the new councils of their functions. Following advice from the two councils, the procedures established by the authority have allowed for a transitionary period until the end of December

2001, whereby the new awarding councils will use the existing processes of the awarding bodies previously in place.

3.6. Quality assurance

The 1999 act also contains new quality assurance procedures for any provider with programmes validated by either of the two awarding councils or with the delegated authority from an awarding council to make awards itself.

The new quality assurance procedures must be agreed between the appropriate council and the provider. They must include regular evaluation by national and international experts and evaluation by learners. The provider must implement any of the findings arising from the application of the procedures that the awarding council determines. The effectiveness of the procedures must be reviewed on a regular basis by the council.

Similar arrangements apply in relation to the Dublin institute of technology, other than that the national qualifications authority of Ireland has the overseeing role of the awarding council.

3.7. Main pathways

The 1999 act decrees that, in future, all providers of education and training must inform learners of the transfer and progression routes available to them when they start a course. These routes are to provide a transparent and comprehensive network which will aid learners in deciding upon and following their career paths. They will also ensure that learners may be confident of the quality of the programmes they are undertaking.

3.8. Stakeholders

The Authority will work with the new awards councils, the universities, the Dublin Institute of Technology and also with the existing providers of education and training and with learners and social partners. Also, as previously mentioned, the authority is preparing a position paper on the framework, which will be consulted on both nationally and internationally.

4. Scotland

4.1. The framework: diagram

The Scottish credit and qualifications framework has been created by bringing together into a single unified framework all Scottish mainstream qualifications: the qualifications of higher education institutions; SQA national and higher national qualifications; and SVQs. There are

12 levels ranging from access 1 (national qualification) at SCQF level 1 to doctorate at SCQF level 12.

Table 8: The Scottish credit and qualifications framework

SCQF level	**SQA national units, courses and group awards**	**Higher education**	**SVQ***	SCQF level
12		Doctorates		12
11		Masters	SVQ5	11
10		Honours degree Graduate Diploma/certificate ([1])		10
9		Ordinary degree Graduate Diploma/certificate		9
8		Higher national diploma Diploma in H. Ed	SVQ 4	8
7	Advanced higher	Higher national certificate Certificate in H. Ed		7
6	Higher		SVQ 3 ([2])	6
5	Intermediate 2 Credit standard grade		SVQ 2	5
4	Intermediate 1 General standard grade		SVQ 1	4
3	Access 3 Foundation standard grade			3
2	Access 2			2
1	Access 1			1

([1]) These qualifications are differentiated by volume of outcomes and may be offered at either level.

([2]) The positioning of SVQs in the table gives a broad indication of their place in the framework. Like most group awards, SVQs are likely to be made up of units at several levels. The current placing of SVQ3 at level 6 is based on the way in which SVQs are positioned in statutory documents and national targets. However there is a view that in some sectors, SVQ3 could be placed at level 7. Further planned work with the Scottish council of NTOs and individual NTOs will clarify this in the future within an overall UK context.

4.2. What is the qualifications framework/system?

The SCQF is a unified integrated framework covering qualifications awarded by Scottish HEIs and those awarded and accredited by the SQA. It has been developed jointly by the quality assurance agency for higher education (Scottish office), universities Scotland and the Scottish Qualifications Authority. SQA's national qualifications have been available in Scotland's schools and colleges since 1999 following a review of post-16 qualifications. The old SCE Higher has been phased out and a new higher has taken its place. The certificate of sixth year study (CSYS) has also now been replaced by a completely new qualification, the advanced higher. The new higher qualification has the same value as the qualification it replaced, i.e. it may be used for university entrance, getting a place on a training course, or for seeking employment.

4.3. Scottish group awards

These courses and units may be built up into Scottish group awards (SGAs). These are larger qualifications which take longer to achieve, and may be seen as more like HNCs and HNDs. Students can take four or five subjects to work towards an SGA depending on the design rules. These group awards are useful for those returning to education; the unit format means that learners can work at their own pace. Credits may be transferred from other SQA courses such as standard grades or from SVQs.

Other integral parts of the framework cover SVQs and all qualifications awarded by Scottish HEIs.

4.4. Rationale and main purposes

A key aim of the SCQF is to include all programmes of learning and qualifications currently not in the framework that are subject to assessment that is valid, reliable and quality assured. The criteria and processes for this are currently being developed. However all learning, whether it is formally assessed or not, should also be able to be placed at an appropriate level in the framework. This is seen as an important development for many community-based programmes of learning.

These developments support the vision of the framework as a tool for widening participation in learning at all levels and in all forms of delivery.

4.5. Main pathways

Within the SCQF, credits are defined in terms of Scotcat points; these points are allocated to outcomes of learning that are subject to valid and reliable assessment methods. Scotcat points are based upon the amount of time the ‘average’ learner at a particular level may be expected to take to achieve the learning outcomes. This is based on the Scotcat system used in Scottish HEIs. The points may be seen as a form of currency for learning outcomes.

One point is allocated for every 10 hours of notional learning time required, although learners do not lose/gain extra points if they take less/more time to achieve the outcomes. Most mainstream qualifications in Scotland have been developed on a credit basis with design rules related to the amount and level of general credit attached to each qualification. For example, the achievement of an honours degree requires the accumulation of 480 Scotcat points, at least 90 of which must be at level 10 while an SQA higher course requires the accumulation of 24 Scotcat points at level 6. Work is underway with the Scottish council for NTOs and individual NTOs to include SVQs in this system as fully as possible.

General Scotcat points can be used to assist learners to transfer between programmes. The awarding bodies - the SQA and individual universities - will continue to determine the extent to which this kind of transfer can take place. They decide the amount of specific credit points

that can be allocated to previous learning and qualifications and so enable credit transfer to take place between and within institutions and across education and training sectors.

4.6. Levels

There are 12 levels in this framework, from very basic education provision to doctorates. A single level may contain one or more qualifications. The levels have been designed to encourage students to progress to the next level in a variety of ways, so that they may achieve their potential. For example, level 5 shows different qualifications, each one with different progression routes available to learners in school, FE or the workplace. The framework uses agreed general level descriptors to provide broad comparisons between learning outcomes which have been subjected to quality assured assessment. These descriptors are not statements of required learning at each level but may be used as a reference point when:

- giving guidance/information on learning opportunities/training provision;
- determining the level within the framework of a qualification or programme of learning;
- assessing previous learning;
- designing a programme of learning.

5. South Africa ([13])

Table 9: Framework diagram

NQF level	Band	Qualification type
8 7 6 5	Higher education and training	• Post-doctoral research degrees • Doctorates • Masters degrees • Professional qualifications • Honours degrees • National first degrees • Higher diplomas • National diplomas • National certificates
Further education and training certificate (FETC)		
4 3 2	Further education and training	National certificates
General education and training certificate (GETC)		
1	General education and	Grade 9 | ABET Level 4

([13]) With the exception of the section headings, all text here is directly quoted from the South African Qualifications Authority website.

	training	National certificates

5.1. What is the qualifications framework/system?

It is a framework i.e. it sets the boundaries - a set of principles and guidelines which provide a vision, a philosophical base and an organisational structure - for construction, in this case, of a qualifications system. Detailed development and implementation is carried out within these boundaries. It is national because it is a national resource, representing a national effort at integrating education and training into a unified structure of recognised qualifications. It is a framework of qualifications i.e. records of learner achievement.

In short, the NQF is the set of principles and guidelines by which records of learner achievement are registered to enable national recognition of acquired skills and knowledge, thereby ensuring an integrated system that encourages lifelong learning.

5.2. Rationale and main purposes

5.2.1. Objectives

The objectives of the NQF as outlined in the SAQA ([14]) Act are as follows:

- to create an integrated national framework for learning achievements;
- facilitate access to, and mobility and progression within education, training and career paths;
- enhance the quality of education and training;
- accelerate the redress of past unfair discrimination in education, training and employment opportunities;
- contribute to the full personal development of each learner and the social and economic development of the nation at large.

5.2.2. Rationale

In 1994 the international community witnessed the birth of a new democracy and welcomed the new South Africa as the most recent member of its global village. In accepting that honour, this country took on the associated challenges of that position.

Many countries all over the world are looking for better ways of educating their people and organising their education and training systems so that they might gain the edge in an

([14]) South African qualifications authority act (1995).

increasingly competitive economic global environment. Furthermore, the world is an ever-changing place, politically, geographically and technologically. Indeed, the rapid technological advances of the 20th century have placed education systems under extreme pressure as they try to adapt and incorporate these changes in an effort to produce more creative, effective and adaptable people. Success, or even survival, in such a world demands that South Africa has a national education and training system that provides quality learning, is responsive to the ever-changing influences of the external environment and promotes the development of a nation that is committed to lifelong learning.

When learners know that there are clear learning pathways which provide access to, and mobility and progression within education, training and career paths, they are more inclined to improve their skills and knowledge, as such improvements increase their employment opportunities. The increased skills base of the workforce has a wider implication, namely the enhancement of the functional and intellectual capability of the nation, thereby increasing our chances for success in the global community.

5.2.3. Grounds for inclusion of qualifications

The NSB ([15]) regulations indicate that a qualification shall:

- represent a planned combination of learning outcomes which has a defined purpose and which is intended to provide qualifying learners with applied competence and a basis for further learning;
- add value to the qualifying learner by providing status, recognition, enhancing marketability and employability;
- provide benefits to society and the economy;
- comply with the objectives of the NQF;
- include both specific and critical cross-field outcomes that promote lifelong learning;
- where applicable, be internationally comparable;
- incorporate integrated assessment appropriately to ensure that the purpose of the qualification is achieved. Assessment should include a range of formative and summative assessment methods such as portfolios, simulations, workplace assessments and also written and oral examinations;
- indicate in the rules governing the award of the qualification that the qualification may be achieved in whole or in part through the recognition of prior learning, which concept includes but is not limited to learning outcomes achieved through formal, informal and non-formal learning and work experience.

([15]) National standards bodies (see diagram below for explanation of their role).

There is provision in the regulations for the registration of qualifications constructed from unit standards as well as the registration of whole qualifications, not constructed from unit standards. Unit standard means registered statements of desired education and training outcomes and their associated assessment criteria together with administrative and other information as specified in the regulations. Both formats of qualification structure however require the specification of learning outcomes, the latter format requiring the articulation of exit level outcomes and associated assessment criteria.

There is much debate about the ability or desirability of reaching agreement on learning outcomes at a national level, and furthermore, about describing learning outcomes in the form of applied competence standards. SAQA has placed the requirement for participation in national stakeholder processes only for those qualifications and standards that are to be registered on the NQF; national recognition requires acceptance by national stakeholders. Furthermore, constructors of qualifications and standards can choose to be rigid or choose to be flexible in the construction of the qualifications and standards, allowing for choice or not. The strength of the NQF processes is that representatives of all key stakeholders in the learning area and not just a select few will make those decisions. Furthermore, through the required process of review all qualifications and standards must be reviewed regularly to ensure that the agreed criteria and requirements are feasible, relevant and desirable. If there is agreement that changes are necessary, there is ample opportunity for those changes to be adopted.

A more complex issue is raised by the notion of learning outcomes and competence standards. Some people raise the problem that the learning outcomes of certain qualifications and standards can relatively easily be described by in the form of competence standards, e.g. the draft standards for engineering qualifications. However, in the case of other qualifications, this is more difficult because the learning outcomes are less obvious or less precise. Any effort to try and establish national agreement will result in a loss of creativity and originality when in fact, it is that very creativity and originality that gives them value. SAQA is of the opinion that the description of a NQF qualification addresses this question i.e. a qualification shall represent a planned combination of learning outcomes which has a defined purpose and which is intended to provide qualifying learners with applied competence and a basis for further learning.

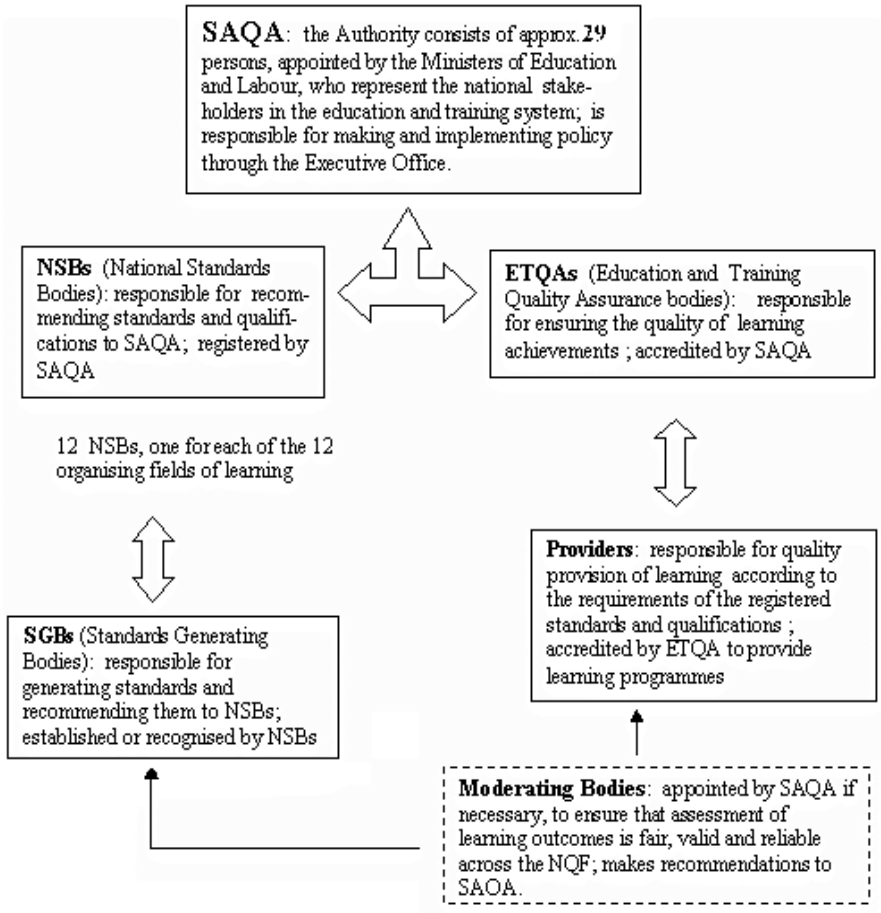
In describing the purpose of qualification, standards setters will have to give consideration as to what the purpose of the qualification is and how it contributes to the learner’s development and further learning.

5.3. Levels

SAQA has adopted an eight-level framework, with levels 1 and 8 respectively being regarded as open-ended. Level 1 accommodates three adult basic education and training (ABET) certification levels as well as the general education and training certificate.

6. Stakeholders

Standards setting **Quality assurance**



The SAQA Act clearly states that the NQF must be set up after consultation and in cooperation with those bodies and institutions responsible for education, training and certification of standards affected by the NQF.

The fact that the SAQA Act clearly articulates the need for SAQA to do its work in a spirit of consultation and cooperation indicates the commitment of the new democratic government to the principles of representation and participation of all relevant stakeholders in society's institutions. This emphasis on inclusiveness has its roots in a history of exclusion of large sectors of the community from important decision making processes in education and training. For example, the skills to be developed and the content of a learning programme in the past were constructed by the so-called experts in the field, usually academics rooted in formal institutions of learning i.e. 'providers' of education, with little or no consultation with the 'users' of the qualifications i.e. business, labour unions, learners. This led to the

frequently cited criticism that there was little match between what was taught in formal institutions of learning and what was required in the world of work or even for further study. Furthermore, there was little cooperation or consultation between previous ministries of education and manpower; across industries or companies or with the state; between providers of formal education and providers of training. This meant that there was no means to align learning across different providers or courses; qualifications remained sectorally-based, geographically-based or institution-based with little or no formal articulation between allied learning areas.

In spite of the culture of consultation and cooperation in decision-making in the new South Africa, the most logical reason for representivity in decision-making about what learning outcomes for a particular qualification should be, is the question of relevance. For South Africa to remain responsive to changes in the environment, it is essential that all relevant voices in learning are heard: the state, the academics, the business world, the labour market, the providers of education and training to name a few. An inclusive approach to standards setting and the construction of qualifications will enable new trends to be taken into account swiftly, thereby ensuring that South Africa is at the cutting edge of international developments.

SAQA is committed to a process of public consultation in the development and execution of policy. Qualifications and standards are required to go through a process of narrow consultation with stakeholders in the field and a process of broad consultation, whereby the public at large is provided with an opportunity to review and comment on the proposed standards. Furthermore all qualifications and standards are submitted to a reference group which comprises organisations representing the disabled and marginalised sectors of the community, for comment, before registration, in an effort to ensure that proposed standards and qualifications do not discriminate unfairly against any of these sectors of the community.

In the execution of its quality assurance functions, ETQAs are required to have national stakeholder representation. The main purpose of this representation is to ensure public accountability and transparency. In addition all policy documents of SAQA are drawn up through an open consultation process with relevant stakeholders and while in draft form, are published in the *Government Gazette* for public comment. All nominations to SAQA structures, excluding authority members, are published in the *Government Gazette* prior to appointment, to enable public comment. In addition, all documents requiring public comment and all SAQA publications in the *Government Gazette* are posted on the website (http://www.saqa.org.za). In this way SAQA ensures social transparency and inclusivity in its work.

An education and training system that is constructed through a process of participation and negotiation to meet the needs of all stakeholders enjoys greater legitimacy and credibility in the society within which it operates than would otherwise be the case. Furthermore SAQA, the guiding body in the South African system, is an impartial ‘overseer’, i.e. it not a state department or an arm of government, it is not an initiative of business, nor of labour, nor is it

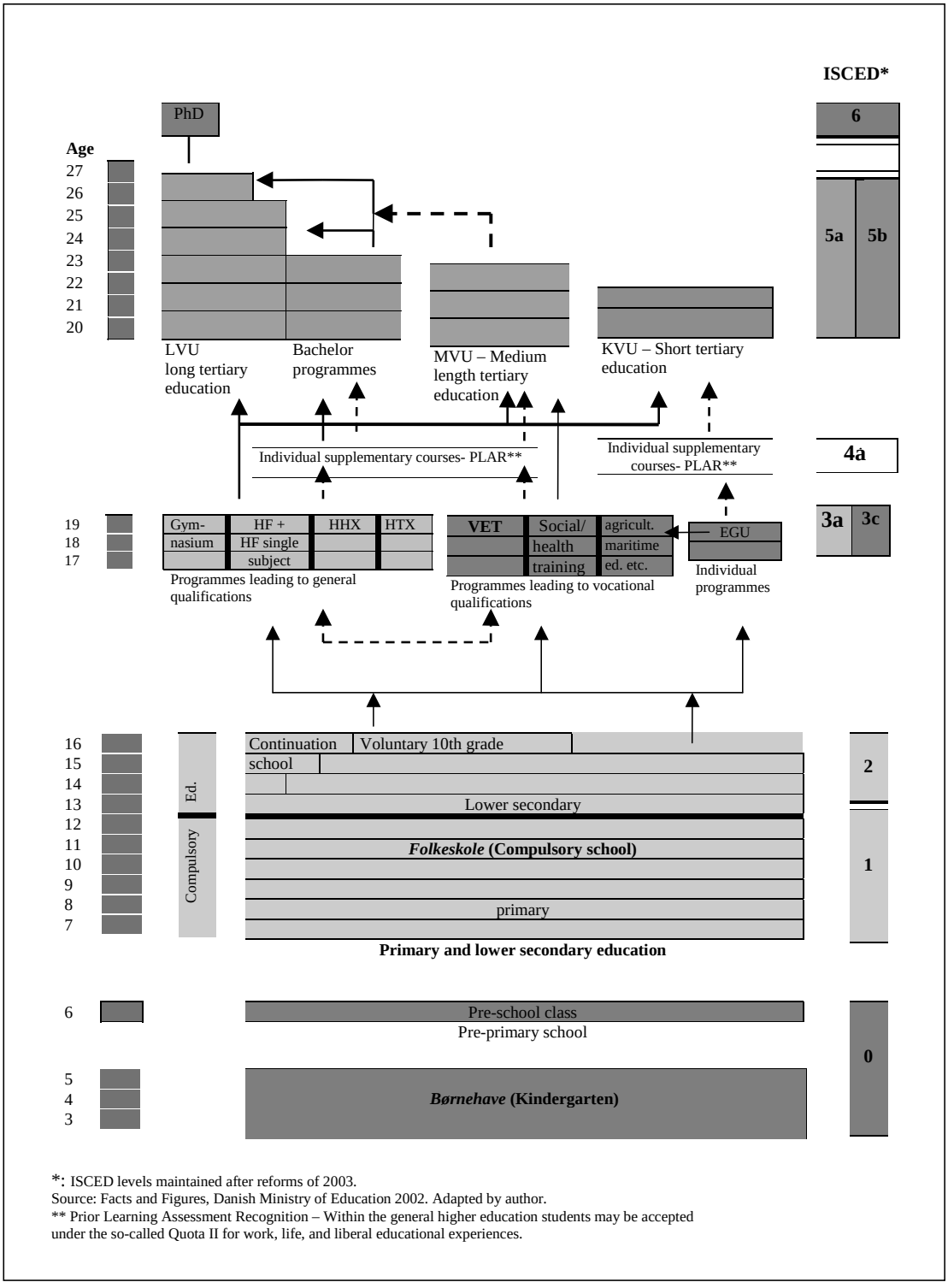
allied to the education provider sector. For this reason, SAQA is independent of the agendas of each of these sectors and as such, is able to retain its integrity in facilitating negotiations between education and training stakeholders which sometimes have conflicting interests.

The SAQA act is an example of enabling legislation; it does not hand down a blueprint from ‘on high’ but rather enables the development of the NQF as a social construct whose meaning has been, and will continue to be, negotiated by the people for the people. It is a synthesis of the experience, thinking and practice of South Africans from a variety of socio-economic backgrounds representing a variety of world-views. The cornerstones of this construct are democratic participation, intellectual scrutiny and the availability of resources, notions central to SAQA’s development and implementation of the NQF.

Annex 10 Selected qualification systems

The following table provides an overview of the Danish Qualification system according to reference levels and educational areas following the ISCED classification.

Figure 9: The Danish general educational qualification system

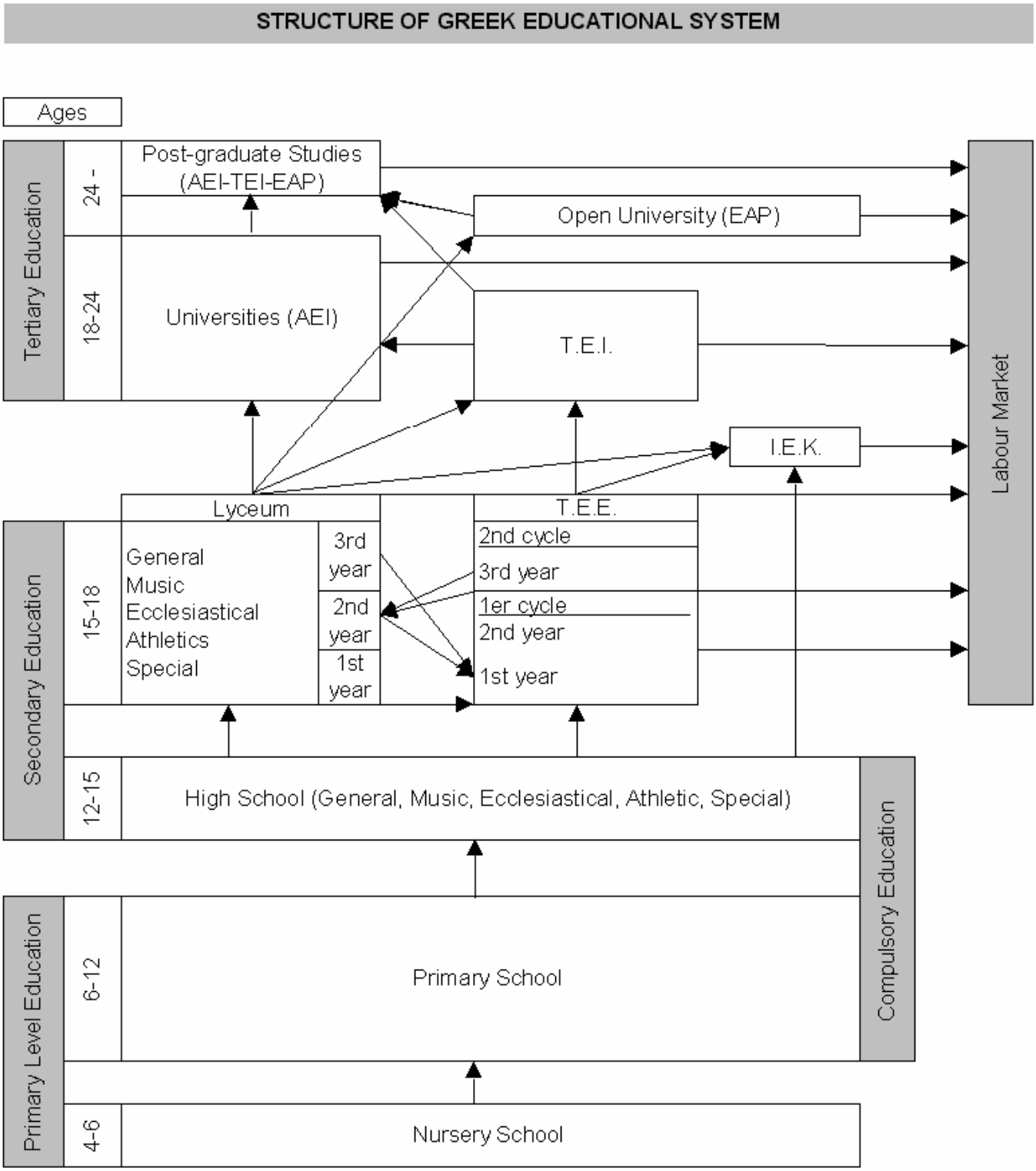


*: ISCED levels maintained after reforms of 2003.
Source: Facts and Figures, Danish Ministry of Education 2002. Adapted by author.
** Prior Learning Assessment Recognition – Within the general higher education students may be accepted under the so-called Quota II for work, life, and liberal educational experiences.

Table 10: Japan's skill test grades

Grade	**Level of skill and associated knowledge needed to pass**		**Main eligibility requirements**	**Person awarding pass certificate**
Special grade	Level of skill and associated knowledge normally required by a manager or supervisor		Persons with at least 5 years of work experience after passing 1st grade skill test	Minister of Health, Labour and Welfare
1st grade	Level of skill and associated knowledge normally required by an upper grade skilled worker		Persons with at least 12 years of work experience	Minister of Health, Labour and Welfare
2nd grade	Level of skill and associated knowledge normally required by a middle grade skilled worker		Persons with at least 3 years of work experience	Prefectural governor or designated testing body
3rd grade	Level of skill and associated knowledge normally required by an elementary grade skilled worker		Persons with at least 1 year of work experience	Prefectural governor or designated testing body
3rd grade (Occasional)	A grade designed for foreign trainees and technical interns	Level of skill and associated knowledge normally required by an elementary grade skilled worker	Persons with at least 1 year of work experience	Prefectural governor
Elementary 1st grade		Level of skill and associated knowledge needed to perform basic work	Persons with at least 8 months of work experience	Prefectural governor
Elementary 2nd grade		Level of basic skill and associated knowledge needed to perform basic work	Persons with at least 4 months of work experience	Prefectural governor
Single grade	Level of skill and associated knowledge normally required by an upper grade skilled worker		Persons with at least 3 or 5 years of work experience, depending on the trade	Minister of Health, Labour and Welfare

Figure 10: The Greek educational system



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Dekker, Ron; de Grip, Andries; Heijke, Hans. The effects of training and over education on career mobility in a segmented labour market. *International Journal of Manpower*, 2002, Vol. 23, No 2, p. 106-125.

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Delisle, Gilles; Ryan-Bacon, Wendy. Recognition of substantial equivalence of engineering competence: the Canada-France mutual recognition agreement. *European Journal of Engineering Education*, 2001, Vol. 26, No 3, p. 219-230.

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Dif, M'Hamed. Accreditation of experiential learning in France: evaluation and perspectives. In Manning, Sabine; Griffiths, Toni; Oliveria, Teresa (eds). *VETNET ECER 2002 proceedings*. Berlin: Wissenschaftsforum Bildung und Gesellschaft e.V, 2002. Available from Internet: http://www2.trainingvillage.gr/download/ero/DifMh03.rtf [cited 24.01.2005].

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Donoghue, Judith [et al.]. Recognition of prior learning as university entry criteria in successful postgraduate nursing students. *Innovations in Education and Teaching International*, 2002, Vol. 39, No 1, p. 54-62.

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Qualification versus credit accumulation frameworks. SEEC (South England Consortium), a major source of expertise on credit-based learning structures campaign for a credit accumulation framework for HE. Argues such a framework would transform and democratise HE by enabling it to become more open, flexible and responsive to students and improve access to lifelong learning.

Healy, Tom. Lifelong learning for all: international experience and comparisons. *Lifelong Learning in Europe, Adult and Continuing Education Quarterly*, 1997, Vol. 2, No 3, p. 170-77.

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Jefferies, Derek; Evetts, Julia. Approaches to the international recognition of professional qualifications in engineering and the sciences. *European Journal of Engineering Education*. 2000, Vol. 25, No 1, p. 99-107.

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Kivinen, Osmo; Nurmi, Jouni. Unifying higher education for different kinds of Europeans: higher education and work: a comparison of 10 countries. *Comparative Education*. 2003, Vol. 9, No 1, p. 83-104.

Analyses several significant differences between HE systems across Europe (including the relevance of education to working life). Reports that HE policy in each individual country has evolved distinctively as a result of cultural, social and economic circumstance as well as in response to individual problems which have arisen in its development and that these factors must be taken into account when developing pan-European HE policy. Highlights contradiction in trying to standardise HE policy across Europe when demand for education and graduate employment continues to diversify. Countries included in study: Austria, England, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden.

Koniordos, Sokratis [et al.]. *Changing vocational identities in Europe: reflections on how vocational identities are decomposed and reconstructed from the Czech Republic and Greece.* Paper presented at fourth international conference 'vocational education and training research', University of Wolverhampton, 16-18 July 2001.

Looks at changes in vocational apprenticeships over time. International comparisons, identity in the workplace.

Lester, Stan. The construction of qualifications levels and frameworks: issues from 3 UK projects. *Higher Education Quarterly*, 2001, Vol. 55, No 4, p. 396-415.

Traces the history of qualification frameworks within the United Kingdom then focuses on three UK projects. Project 1: considers a qualification designed to assess professional practice and the difficulties in integrating it into frameworks designed to recognise qualifications which assess declarative or espoused knowledge. Project 2: problems encountered when trying to fit work-based learning into existing frameworks. Development of framework for work-based learning. Project 3: QCA's higher levels project. Problems encountered when integrating two frameworks which developed independently. Issues concerned with allocation of levels to qualifications. Equation of totally different qualifications.

Mason, Terence; Arnove, Robert; Sutton, Margaret. Credits, curriculum and control in higher education: cross-national perspectives. *Higher Education*, 2001, Vol. 42, No 1, p. 107-137.

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Indonesia: credit system and guided study originally introduced to increase degree completion rates and internal efficiency. Commonly regarded advantages of credit systems, such as increased choice and flexibility were not observed since curriculum remained restricted.

Nicaragua: in the 1950s Nicaragua experienced increased exports. Therefore in the1960s reforms were implemented to bring higher education in line with regional economic development. There were strong financial incentives from the US to model new system on that of the US (credit-based systems). Despite initial problems the system had some success in the 1990s when institutions were given greater autonomy.

Vietnam: in the1990s reforms were made to the Vietnamese education system to facilitate participation in the world market. A credit based system was implemented, however there were inconsistencies between credit system and socialist-based market economy in Vietnam. There were also contradictions between implemented credit system and changes in teaching styles - prohibiting innovation, i.e. giving lectures highest credit when trying to promote alternative teaching methods.

McBeath, Clare. *A matter of change? VET reform in Australia, summary of a presentation at the 3rd international conference 'researching vocational education and training'*. Bolton Institute, July 14-16 1999. Available from Internet: http://www.leeds.ac.uk/educol/documents/000001033.htm [cited 24.01.2005].

Reform of the curriculum of VET i.e., increasing modularisation and flexibility of training courses.

Millar, Clive. Boundaries and quality: towards a national qualification framework for education, training and development practitioners in South Africa. In C*rossing borders, breaking boundaries: research in the education of adults. Proceedings of 27th annual SCUTREA conference*, 1997, p. 300-304.

Framework of 'teachers' rather than qualifications.

Miller, Linda; Acutt; Bruce. Factors influencing the choice of initial qualifications and continuing development in Australia and Britain. *International Journal of Training and Development*, 2001, Vol. 5, No 3, p. 196-222.

Survey results and analyses exploring the factors which influence training and development decisions at different career stages. Investigates whether these factors vary with type and level of qualification. Considers the differences exhibited between Britain and Australia, and also between males and females.

Murray, Asa; Steedman, Hilary. *Growing skills in Europe: the changing skill profiles of France, Germany, the Netherlands, Portugal, Sweden and the United Kingdom*. London: Centre for Economic Performance, 1998.

Very brief paper looking at the ISCED levels held by people with 'low skills' in relation to age and gender.

Sullivan, Kirk. Credit and grade transfer within the EU's Socrates programme: unity in diversity or head in the sand? *Assessment and Evaluation in Higher Education*, 2002, Vol. 27, No 1, p. 65-74.

Examines the credit and grade cross-crediting mechanism for SOCRATES: the ECTS (European credit transfer system). Questions whether it is an oversimplified approach in that it fails to acknowledge fundamental differences in the educational and assessment cultures of European countries.

Warmington, Paul. You need a qualification for everything these days: the impact of work, welfare and disaffection upon the aspirations of access to higher education students. *British Journal of Sociology of Education*, 2003, Vol. 24, No 1, p. 95-107.

Mature students on returning to education via access higher education courses. The students characterised qualifications as 'cultural-capital passports into education and work' and a belief that the value of qualifications within the labour market has intensified.

Websites investigated

Searches through official ministry of education websites

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Australian Government: Australian Research Council
http://www.arc.gov.au/
Australian Government: Department of Education, Science and Training
http://www.dest.gov.au/

Denmark

Danish Ministry of Education
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Finland

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http://www.minedu.fi/
The Finnish Higher Education Evaluation Council
http://www.kka.fi/english/index.lasso?cont=english

France

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http://www.education.gouv.fr/

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http://www.bmbf.de/

Ireland

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http://www.irlgov.ie/educ

Italy

Ministero dell Istruxione, dell Universita e della Ricerca
http://www.miur.it/

Japan

Ministry of Education, Culture, Sports, Science and Technology
http://www.mext.go.jp/english/index.htm

Netherlands

Education, Culture and Science in the Netherlands
http://www.minocw.nl/

New Zealand

Ministry of Education
http://www.minedu.govt.nz/
New Zealand Council for Educational Research
http://www.nzcer.org.nz/
New Zealand Qualifications Authority
http://www.nzqa.govt.nz/
Tertiary Education Commission
http://www.tec.govt.nz/

South Africa

South African Government: Department of Education (DoE)
http://education.pwv.gov.za

Sweden

The Association of Swedish Higher Education
http://www.suhf.se/

Switzerland

Federal Office for Education and Science
http://www.admin.ch/bbw

General websites considered

BBC Online

http://news.bbc.co.uk/.

BVE Council, Association of the Regional Training Centres for Vocational and Adult

Education, (Netherlands)

http://www.bveraad.nl/

Career Space

http://www.career-space.com

Centre for Development of Human Resources and Quality Management, (SCKK), (Denmark)

http://www.sckk.dk

Centre INFFO - Centre for Information on Continuing Vocational Training, (France)

http://www.centre-inffo.fr/

Centre for International Cooperation and Mobility in Education and Training (Cirius), (Denmark)

http://www.ciriusonline.dk/eng/certsupp/

Committee on Advanced Vocational Education, (Sweden)

http://www.ky.gov.se/

Credit transfer in VET Virtual Community

http://Cedefop.communityzero.com/credittransfer?go=z988442

Europa - the European Union on-line: Europass

http://europa.eu.int/comm/education/programmes/europass/index_en.html

Europa - the European Union on-line: Recognition and Transparency of Qualifications

http://europa.eu.int/comm/education/policies/rec_qual/rec_qual_en.html

European Centre for the Development of Vocational Training (Cedefop)

http://www.Cedefop.eu.int/

European Training Village: Recognition and transparency of vocational qualifications: the way forward

http://www2.trainingvillage.gr/download/Cinfo/Cinfo198/C1B01EN.html

European Training Village: The Netherlands, Netref: information exchange started up

http://www2.trainingvillage.gr/download/Cinfo/Cinfo198/C1D04EN.html

Eurostat

http://europa.eu.int/comm/eurostat/

Federal Institute for Vocational Training, (Germany)

http://www.bibb.de/

International Labour Organisation

http://www.ilo.org/public/english/

Interskills

http://www.interskills.info

Ministry of Education and Science, (Sweden)

http://www.education.ministry.se

Ministry of Social Affairs, Labour and Solidarity, (France)

http://www.travail.gouv.fr/

National Agency for Education, (Sweden)

http://www.skolverket.se/

National Board for Education, (Finland)

http://www.oph.fi

National Council for Educational and Vocational Guidance (RUE), (Denmark)

http://www.r-u-e.dk

National Qualifications Authority of Ireland

http://www.nqai.ie/

National reference point for Vocational Qualifications, Sweden (SENRP)

http://www.senrp.se/

Norwegian Council for Higher Education

http://www.uhr.no/

Organisation for Economic Cooperation and Development (OECD)

http://www.oecd.org/home/

Qualifications and Curriculum Authority, (United Kingdom)

http://www.qca.org.uk/

Scottish Credit and Qualifications Framework (SCQF)

http://www.scqf.org.uk/

South African Qualifications Authority

http://www.saqa.org.za/

Standing Conference of Länder Ministers of Education and Cultural Affairs, (Germany)

Cedefop (European Centre for the Development of Vocational Training)

European reference levels for education and training: promoting credit transfer and mutual trust

Study commissioned to the Qualifications and Curriculum Authority, England

Mike Coles
Tim Oates

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This report is the principal outcome of the Cedefop-funded study on 'reference levels – zones of mutual trust for the accumulation and transfer of credits: definition of reference levels in vocational education and training'. It focuses on two key areas:

(a) how zones of mutual trust (ZMTs) operate, and whether they are useful for both understanding how transparency arrangements operate and for framing public policy designed to improve access and progression (in employment, education and training);

(b) whether an agreed framework of levels would help allocate qualifications and accumulated experience effectively to improve ZMTs – particularly in increasing Europe-wide cooperation in vocational education and training.

On (a), the authors define ZMTs and conclude they are extremely useful for explaining access and progression in employment and vocational education and training.

On (b), based on extensive scrutiny of existing qualification levels frameworks, they conclude a new framework and associated administrative arrangements for its effective implementation are a prerequisite for the proper design and application of European credit transfer schemes in VET (ECVET). As a result, the project team provides a theoretical basis for a new eight-level framework, which includes both outcome and process elements. It is both practical and easy to use.

PANORAMA

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Study commissioned to the Qualifications and Curriculum Authority, England

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