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Qualifications frameworks and quality assurance of education and training

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OVERVIEW

This paper has been prepared as a briefing paper for the World Bank for the purposes of professional development of its staff.

The aim of this paper is to provide:

- an overview of national quality assurance processes;

- an overview of national qualifications systems;

- an overview of national qualifications frameworks (NQFs); and

- an overview of regional qualification frameworks (RQFs).

Much of the information in this paper has drawn heavily on the concept design paper and discussion paper prepared for the ASEAN Secretariat for the development of the ASEAN Qualifications Reference Framework, as well as for the East Asia Summit TVET Quality Assurance Framework concept paper for the Commonwealth of Australia.

NATIONAL QUALIFICATIONS SYSTEMS

National qualifications systems can be defined as including all the structures and activities that lead to the award of a qualification (Coles & Bjørnåvold 2010). Coles & Werquin (2006, p. 38) note that a 'national qualifications system is a broad concept that includes all aspects of a country's activity resulting in the recognition of learning. These systems include the means of developing and implementing policy on qualifications, institutional arrangements, skills identification arrangements and processes for assessment, awarding and quality assurance'. Key components of a qualification system could include:

- An institutional infrastructure for governance, financing, operations and quality assurance;
- A basis in standards for the development of curricula;
- Providers of learning provision (including organisations providing work-based learning);
- Procedures for assessment of learning outcomes;
- Moderation procedures for assessed outcomes;
- An awarding process that links qualification with assessed learning outcomes;
- A certification process;
- An accreditation processes for qualifications;
- A hierarchy of qualifications that define vertical progression within the qualifications system;
- A credit system that enables learning to be transferred from one setting to another;
- A means of validating learning that is achieved outside formal instruction; and
- A quality assurance system that includes reference to international benchmarks.

The level of integration and coherence will vary across countries, and an explicit qualifications framework may or may not be in place (Coles & Bjørnåvold 2010). Nevertheless all qualifications systems can be considered to have an implicit system of

qualification levels that is based on the public appreciation of the status (currency), entry points and the demand of qualifications.

QUALITY ASSURANCE

Definition

Quality assurance is a component of quality management and is 'focused on providing confidence that quality requirements will be fulfilled'[1]. In relation to training and educational services, 'quality assurance refers to planned and systematic processes that provide confidence in educational services provided by training providers under the remit of relevant authorities or bodies. It is a set of activities established by these relevant authorities or bodies to ensure that educational services satisfy customer requirements in a systematic, reliable fashion. However, quality assurance does not guarantee the quality of educational services it can only make them more likely' (Bateman, Keating & Vickers 2009, p. 8).

Elements of a quality assurance system

Linked to national or sectoral qualifications frameworks are quality assurance processes.

Quality assurance of education and training includes:

- the product through the accreditation of achievement standards (such as educational and/or competency standards as well as certification of a qualification);

- the education and training providers through registration[2] processes based upon their infrastructure, financial probity and health, staff qualifications and experience, management systems, delivery systems, and student support systems;

- the monitoring and auditing of provider processes and outcomes, including student learning and employment outcomes and student and user satisfaction levels;

- the control, supervision or monitoring of assessment, certification and graduation procedures and outcomes;

- provider or system wide evaluations of quality, including evaluations by external agencies; and

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[1] AS/NZS ISO 9000:2006: Quality management systems—Fundamentals and vocabulary, June 2006, p. 9.

[2] Across some regions the processes of endorsement of the probity, capacities and processes of training providers is referred to as 'accreditation'. It is proposed that these processes be termed 'registration' in order to differentiate registration of providers against quality standards from the processes of accreditation of achievement standards (i.e. educational or competency standards and/or certification standards). Refer to Glossary.

- the provision of public information on the performance of providers such as program and component completions, student and employer satisfaction (Bateman, Keating, Gillis, Dyson, Burke & Coles 2012, p. 8 & 9).

Countries typically divide these functions across different types of agencies. The types of agencies include:

- *Accreditation agencies.* These can be single or multiple agencies, such as industry standard setting bodies, or a national or system wide agency.

- *Provider registration and monitoring agencies.* These agencies and have the responsibility for the registration and audit or evaluation[3] of providers. In some cases the audit or evaluation responsibility is delegated to other agencies.

- *Qualifications agencies and awarding bodies.* These bodies include national qualifications authorities with the authority to accredit and award and/or quality assure qualifications. In some cases, e.g. England Wales and Northern Ireland, the awarding organisations are themselves regulated in their use of major national qualifications.

- *Licensing agencies and professional bodies.* Licensing agencies can be government agencies, industry or professional bodies.

- *Self accrediting and/or awarding providers.* Providers can have self accrediting and/or awarding status through legislation or through delegation from another agency e.g. Australian universities.

- *External quality agencies such as those responsible for the ISO standards (*Bateman, Keating, Gillis, Dyson, Burke & Coles 2012, p. 9)*.

The number and type of agencies and the balance of responsibilities that are located in these agencies, as well as the mechanisms that are used to undertake the listed functions are conditioned by the particular characteristics and contexts of each country's education and training systems *(*Bateman, Keating, Gillis, Dyson, Burke & Coles 2012, p. 9)*.

Country education and training systems vary enormously in how they are designed and there is no one way or no right way. Bateman, Keating, Burke, Coles & Vickers (2012) note that the following four key processes form the basis of quality assurance for education and training:

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[3] Quality audit refers to a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled (AS/NZS ISO 19011:2003: Guidelines for quality and/or environmental management systems auditing, p. 1). Some countries may refer to audit activity as an external independent review or evaluation or assessment. For other countries the term 'evaluation' reflects a focus on the value of specified outcomes. Refer to Glossary – Audit, Evaluation.

- **Accreditation of qualifications**:

  Accreditation is the processes by which a qualification gains national recognition and by which the complexity and volume of learning are endorsed as appropriate for the type of qualification. Achievement standards (such as competency, educational, or occupational) form the basis of the qualification. This also includes completion rules for the qualification. The options include public providers taking the lead in establishing achievement standards, or a single agency responsible for the development and endorsement of achievement standards, or multiple industry agencies responsible for developing and endorsing these achievement standards.

- **Registration of education and training providers[4]**:

  Registration is the process by which education and training providers are approved to deliver qualifications, e.g. as having the finances, facilities, instruction and learning materials, and appropriately trained staff to deliver programs that will lead to students being awarded qualifications. It could also include providers improving the quality of their educational provision through on-going self assessment. Strategies for monitoring compliance include audit/evaluation, on-going monitoring, penalties and the publication of outcomes achieved by providers[5]. Registration may be through internal processes, or the registration authority registers all providers or some providers, or it gives categories of registration, including effective self-registration with cyclical reviews for low risk providers.

- **Supervision of assessment systems that lead to the award of a qualification:**

  This is the means of assuring that the learning that is specified in a qualification has been gained by a student who is to be awarded a qualification. This activity may be regulatory in nature and include audit and monitoring strategies, but may also include other strategies such as verification/validation/moderation processes that focus on whether appropriate judgements have been made about the level of achievement required to award a qualification. Options include provider based assessments that are reviewed and quality assured through internal processes and may include review by an external moderator, or samples of assessments are reviewed by the external agency, and if necessary the results are adjusted, or assessment results are issued by the external agency.

- **Regulation of the issuance of certificates:**

  Certification models range from awarding bodies or agencies (e.g. City and Guilds in the United Kingdom) to issuance of qualifications being linked to provider

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[4] In some countries and across some regions the term 'accreditation' is used to describe what this paper describes as the registration of providers. It is suggested that registration is a more appropriate term as it is clearly distinguished from the accreditation of qualifications. Refer to Glossary.

[5] For example in England, the Office for Standards in Education, Children's Services and Skills (Ofsted) inspect and regulate services of those providing education and skills for learners of all ages. Its website includes inspection reports, information pertaining to outstanding providers in terms of their overall effectiveness and examples of good practice.

registration requirements (e.g. Australian system). In many countries government ministries are the main source of certifications (e.g. France, Myanmar). Options include provider based qualifications being internally quality assured, or awarding body licenses the provider to issue the qualifications, which are subject to quality procedures, or awarding body issues the qualifications on the basis of its own assessments or validated and moderated assessments of the providers.

LINK TO NQFs

NQFs are linked to the quality assurance processes as they set the standard against which accreditation of qualifications can take place and also provides the standard measures against which assessment systems are designed and tested (Bateman, Keating, Burke, Coles & Vickers 2012). Together they help to achieve greater coherence and trust within a national qualifications system.

A NQF without an accompanying quality assurance system is unlikely to be effective in building the quality of and trust in national qualifications. 'Zones of trust for qualifications are built upon common interests, accepted modus operandi for the award of qualifications, the participation of key stakeholders in the design of qualifications, and the clarity of the added value that qualifications deliver' (Coles and Oates 2004 as cited in Bateman, Keating, Burke, Coles & Vickers 2012, p. 10.

Regional quality assurance initiatives

Many countries and sectors have recognised the need to have a common understanding of quality assurance to strengthen mutual trust across the regions of national qualifications and to promote learner and labour mobility.

A key aim of a regional quality assurance framework is to develop mutual understanding amongst member countries. In addition, a regional quality assurance framework acts as:

- an instrument to promote and monitor the improvement of member countries' systems of education and training;

- a reference instrument that outlines benchmarks to help member countries to assess clearly and consistently whether the measures necessary for improving the quality of their education and training systems have been implemented and whether they need to be reviewed;

- a self-assessment instrument that can include internal and external assessment which is can be made public (Bateman, Keating, Gillis, Dyson, Burke & Coles 2021).

There are a number of regional initiatives related to quality assurance of higher education:

- Quality assurance principles for Asia Pacific Region – Chiba Principles[6]

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[6] http://www.aei.gov.au/About-AEI/Policy/Documents/Brisbane%20Communique/Quality_Assurance_Principles_pdf.pdf

- International Network for Quality Assurance Agencies in Higher Education (INQAAHE) Good Practice Guidelines[7]

- European Association for Quality Assurance in Higher Education (ENQA) Standards and Guidelines for Quality Assurance in the European Higher Education Area[8].

Bateman, Keating, Gillis, Dyson, Burke & Coles (2012, p. 24) note a 'review of these three quality assurance frameworks highlights a number of commonalities. These include:

- establishment of an agency that has clear objectives and goals, and appropriate governance arrangements, as well as adequate resources;

- independence of decision making;

- self assessment and external review processes;

- transparency and publication of reports, data and findings;

- cross border or collaboration arrangements;

- focus on continuous improvement;

- a set of standards or criteria for assessment of providers and/or accreditation of achievement standards (i.e. certification standards);

- process for audit/review of providers and selection and currency of reviewers/auditors; and

- process for complaints and appeals'.

There are also a number of regional initiatives related to TVET:

- European Quality Assurance Reference Framework for VET[9]: The framework is based on the continuous improvement cycle of planning, implementation, evaluation and review/revision and includes:

  o quality criteria;

  o indicative descriptors for TVET system level;

  o indicative descriptors for TVET provider level; and

  o a reference set of quality indicators for assessing quality in TVET.

- Pacific Register of Qualifications and Standards: Quality Assurance Standard[10]: The regional register seeks to ensure that the quality assurance system across all Pacific

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[7] http://www.inqaahe.org/admin/files/assets/subsites/1/documenten/1231430767_inqaahe---guidelines-of-good-practice[1].pdf
[8] http://www.enqa.eu/files/ENQA%20Bergen%20Report.pdf
[9] http://europa.eu/legislation_summaries/education_training_youth/lifelong_learning/c11108_en.htm
[10] Note that the Pacific's approach to quality assurance is still in trial stage.

Island Countries and its subsequent implementation is designed, developed and implemented at a high standard and to foster mutual trust between a country and any of its multiple stakeholders' (SPBEA 2010, Quality Assurance of National Qualifications Agencies, 2011 p. 4). The quality assurance framework ensures that qualifications to be entered on the regional Register meet agreed standards. The Pacific's approach to quality assurance focusses primarily on registering and accrediting agencies and includes: Quality Assurance Standards for Agencies (Standards for Agencies and Standards governing the relationship between Agencies and their Providers) and Minimum quality standards for training providers.

- East Asia Summit TVET Quality Assurance Framework[11]: This framework includes principles, quality standards (for agencies and suggested for providers), as well as quality indicators (data standard).

These three frameworks vary according to their purpose and structure, however underpinning these regional frameworks is:

- principle of transparency;

- focus on continuous improvement;

- agreed quality standards or criteria for agencies; and
- promotion of mutual understanding.

QUALIFICATIONS FRAMEWORKS

What are qualifications frameworks?

CEDEFOP (2011) defines a qualifications framework as:

> *An instrument for the development and classification of qualifications (e.g. at national or sectoral level) according to a set of criteria (e.g. using descriptors) applicable to specified levels of learning outcomes.*

Tuck (2007) described a qualifications framework as 'an instrument for the development, classification and recognition of skills, knowledge and competencies along a continuum of agreed levels. It is a way of structuring existing and new qualifications, which are defined by learning outcomes' (p. v).

Keevy, West, Schmidt, Hope, Lene & Manabile (2008, p. 103) suggest that a framework that includes the key sectors of senior schooling, TVET and higher education is more likely to enhance mobility and lifelong learning than a less comprehensive framework. Such a

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[11] This framework is in discussion and approval stage. The 18 member countries of the East Asia Summit (EAS) include the ten Association of Southeast Asian Nations (ASEAN) countries (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam), as well as Australia, China, India, Japan, Korea, New Zealand, Russia and the United States.

framework will provide pathways between the education sectors and facilitate rather than isolate any one sector.

Qualification frameworks can be national or sectoral (e.g. covering one or two education and training sectors – such as TVET) or regional.

The countries in geographical regions often trade together strongly and have mobility of people between each other. To remove barriers to trading and ease mobility of people these countries sometimes collaborate to link their qualifications systems. This is sometimes simply a recognition arrangement, a memorandum of understanding, between learning providers in countries but it can also become a meta framework (regional framework of levels) that each country relates its qualifications levels. The best known regional framework is the European Qualifications Framework. The diagram that follows shows how it relates qualifications in different countries to each other.

Figure 1: European Qualifications Framework
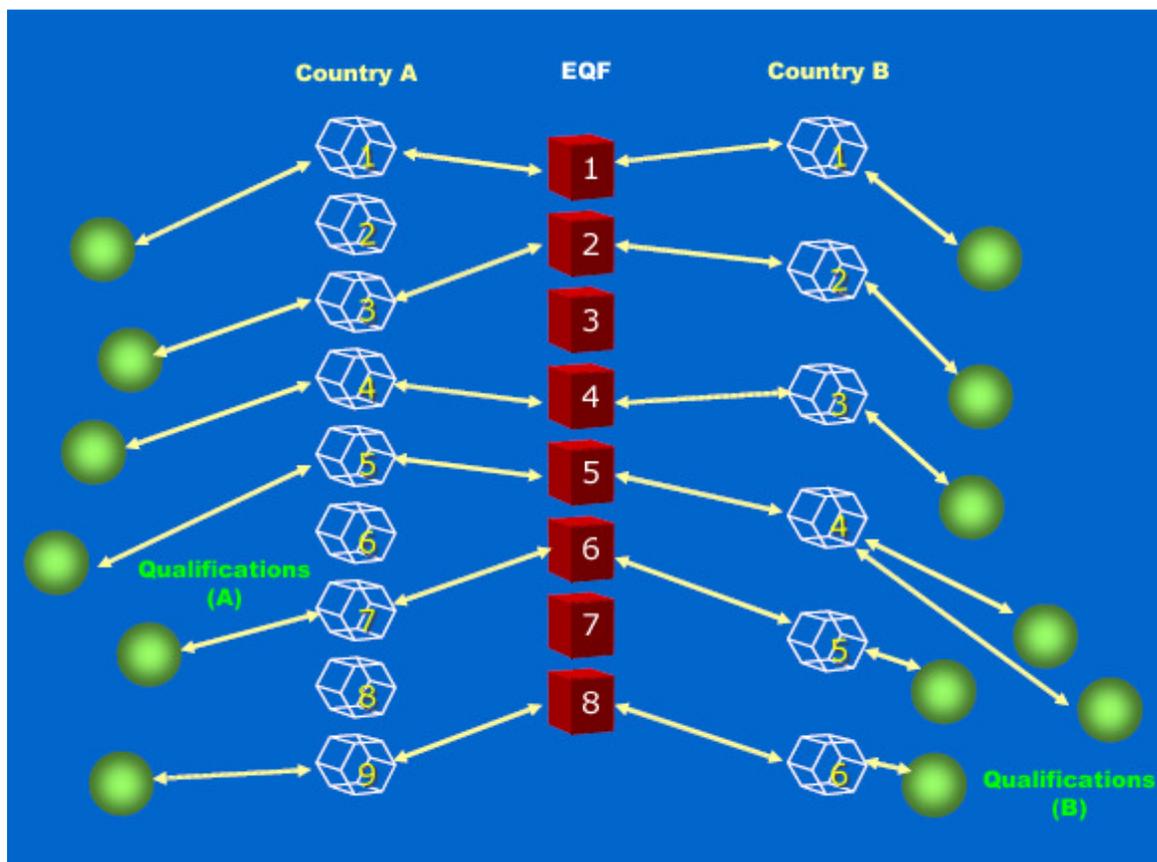
The distinctive characteristics and purpose of regional frameworks should not be confused with those of any national qualifications framework. Overarching or 'meta frameworks', such as the European Qualifications Framework, have very different functions to that of NQFs and aim to add value to the NQFs (Bateman & Coles 2012).

Table 1: Types of qualification framework functions

Differences between the types of frameworks	National qualifications level	Regional Qualifications Framework level
Main function:	to act as a benchmark for the level of learning recognised in the national qualifications system, and possibly an indication of volume and type of learning	to act as a translation device to enable comparisons of levels of qualifications and therefore qualifications across member countries
Developed by:	National governments, national agencies, regional and bodies, and education and training bodies	member countries acting jointly
Sensitive to:	local, regional and national priorities (e.g. levels of literacy, labour market needs)	collective priorities across member countries (e.g. enabling mobility of learners and workers across borders)
Currency/value depends on:	factors within national context	the level of trust between member countries
Quality is guaranteed by:	the practices of national bodies and learning institutions	the common application of the referencing criteria and guidelines as well as the robustness and transparency of the national referencing process and national quality assurance systems
Levels are defined by reference to:	national benchmarks which may be embedded in different specific learning contexts, e.g. school education, work or higher education	general progression in learning across all contexts that is applicable to all countries

Source: Provided by Mike Coles and adapted from Bateman & Coles 2012.

National qualifications frameworks

PURPOSES OF NQFs

NQFs have evolved within national education and training and qualifications systems. NQFs are just one element of national qualifications systems which include all of the processes and rules for accrediting, awarding and quality assuring qualifications (Bateman, Keating, Burke, Coles & Vickers 2012, p. 7).

Countries develop qualifications frameworks for a range of purposes. These purposes may be implicit or explicit; purposes are often documented in preliminary papers and may have underlying economic, social and ethical motivations.

Bjørnåvold & Grm (August 2010) have identified the following purposes in a review of NQFs across Europe:

- make national qualifications systems easier to understand and overview;
- strengthen coherence of qualifications systems by connecting different parts of education and training and making it easier to understand;
- clarifying and strengthening the links between qualifications within systems;

- support lifelong learning by making learning pathways visible and by aiding access, participation and progression;

- aid recognition of a broader range of learning outcomes (including those acquired through non-formal and informal learning);

- strengthen the link and improve the communication between education and training and the labour market;

- open up national qualifications systems to qualifications awarded outside formal education and training;

- create a platform for cooperation and dialogue with a broad range of stakeholders; and

- provide a reference point for quality assurance.

There has been limited evidence for the realisation of these purposes across the more established NQFs. This may be due to various reasons, such as many of the NQFs are in the early stages of implementation, for some countries the claimed benefits of NQFs are difficult to substantiate and for some countries impossible to realise (Bateman, Keating, Burke, Coles & Vickers 2012).

Notwithstanding the lack of evidence of the effectiveness of NQFs it is useful to consider not just the purposes of NQfs but also the added value that national leaders expect them to bring. In the EU Note of the Added Value of NQFs the following points were noted.

In general terms and in most national settings it is probably reasonable to expect benefits in some or all of the following ten areas:

- Increased consistency of qualifications
- Better transparency for individuals and employers
- Increased currency of single qualifications
- A broader range of learning forms are recognised
- A national/external reference point for qualifications standards
- Clarification of learning pathways and progression
- Increased portability of qualifications
- Acting as a platform for stakeholders for strengthening cooperation and commitment
- Greater coherence of national reform policies
- A stronger basis for international co-operation, understanding and comparison.

In recent years, assuring the quality of qualifications across national qualifications systems has emerged as a core purpose of NQFs (Allais 2010, Bjørnåvold & Grm October 2011, Tuck 2007). Quality assurance of qualifications is needed to protect the rights of graduates; to build confidence in the qualifications amongst their users (such as employers); and to enable qualifications and learning to relate across areas and levels so that people can move from one program of learning to another.

It should be noted that NQFs by themselves cannot deliver quality in nationally recognised qualifications. However, they form a basis for the mechanisms that are used to assure quality in qualifications (Bateman, Keating, Burke, Coles & Vickers 2012, p. 7).

CONTROL AND GOVERNANCE

The different purposes of qualifications frameworks lead to distinctions in their design. Around the world we see 148 (ETF 2012) frameworks in a design stage or fully operational and these frameworks can be a means of controlling the type, number and quality of qualifications, these are called regulatory (or tight) frameworks. On the other hand we find frameworks that simply aim to describe the status quo in terms of qualifications levels in a country and make it transparent to citizens. These might be called communication (or loose or inclusive) frameworks. It is undeniably the case that regulatory frameworks also communicate qualifications levels and that communications frameworks actually influence the form and quality of qualifications in the levels. Thus regulatory frameworks and communication frameworks are at end of a spectrum.

Another key distinction between frameworks is their coverage of the range of qualifications in a country. A sectoral framework may cover simply higher education, or maybe vocational education. Some frameworks aim to cover all sectors (schools, TVET, higher education, adult education and work based learning) and these are usually regarded as a comprehensive frameworks.

Another distinction is the extent of quality assurance the framework offers. Some are without framework based quality principles and might be termed inclusive frameworks since any qualification can be accommodated in them. On the other hand quality principles may operate and in effect exclude certain qualifications; these are considered to be more restricted frameworks.

The development and design of NQFs are influenced by each country's structural and governance arrangements for education and training and the broader political and administrative systems and cultures and labour markets contexts.

STRUCTURE OF NQFs

An analysis of various NQFs indicates that the structure of them varies in terms of:

- Coverage – sectors and qualification types
- Purpose and vision of NQFs (e.g. reflective of status quo, reforming, transparency, mobility, regional solidarity, national identity, coherence of education and training etc)
- Levels
- Domains for descriptors
- Volume measures
- Associated functions such as improving quality assurance and validating non formal and informal learning, credit
- Level of regulation and governance (Bateman and Coles 2012, ASEAN workshop presentation).

However, as noted in Bateman, Keating, Burke, Coles & Vickers (2012, pp. 7-8) there are some identifiable core elements of NQFs which include:

- 'levels of learning complexity, which tend to range between 6 and 12 levels;

- descriptor of learning inputs and/or outcomes across these levels or of qualification type, with a trend towards NQFs being outcomes based;

- rules or guidelines for linking qualifications, either at the same level or between levels; and

- rules or guidelines for the volume of learning that contribute towards a qualification'.

However, within these core elements there is considerable variation across:

- 'the coverage of NQFs, that can range from sectors or clusters of qualifications to all nationally recognised qualifications;

- the existence (or not) of a register of national qualifications;

- the specifications or guidelines for quality assurance;

- recognition processes for informal or prior learning;

- credit arrangements;

- the degree of regulation within or attached to the framework; and

- the existence (or not), and the constitution of a central qualifications agency (governing and managing body)' (Bateman, Keating, Burke, Coles & Vickers 2012, pp. 8).

As a consequence there is no standard type of NQF.

NQFs can also have <u>associated functions</u> that are beyond the role of classifying qualifications. These functions can be seen with frameworks that are intended to support other reform policies, such as to improve quality assurance or to help social inclusion by creating better access to qualifications for disadvantaged groups of people. The wider role of these reforming frameworks is usually encapsulated in a (legally defined) qualifications authority that will manage the framework and the associated functions. This it is not unusual to find a qualifications authority that implements a frameworks and ensures it is conducive to the associated functions. A framework might be more conducive to credit arrangements if qualifications are required to be modular in structure. Similarly a framework that is conducive to new quality assurance arrangements might require all awarding bodies to meet certain quality criteria and all qualifications in the framework to have certain quality assessment arrangements.

The associated functions of the EQF are to:

- Encourage the use of learning outcomes

- Ensure all levels are accessible from any kind of learning therefore facilitate the validation of non formal and informal learning

- ▸ Require quality assurance procedures to be explicit
- ▸ Involve all stakeholders in referencing process

LEARNING OUTCOMES

The shift to learning outcomes has been a key featuree of national qualification frameworks and regional common reference frameworks (Allais 2010, Bjørnåvold & Grm 2011, Slava Pevec August 2010, Keevey et al 2010, Tuck 2007).

Bjørnåvold & Grm (2011) note that

> *'The use of learning outcomes in established and emerging frameworks responds to the need to ensure coherence and overview'…and that 'learning outcomes based level descriptors in comprehensive NQFs introduce common language across sectors of education and training, helping make the system more coherent and permeable'* (p. 30).

The EQF suggests that 'the requirement to develop and use learning outcomes may be seen as providing a link to mechanisms and systems supporting transfer of qualifications, notably credit transfer systems and validation of non-formal and informal learning' (EQF 2009). Learning outcomes emphasise 'the results of learning rather than focusing on inputs such as length of study' (EQF 2008). Learning outcomes are seen as the basis for facilitating the recognition and credit transfer of learners and workers (Tuck 2007).

Many countries, especially those in the EU, are encouraging greater use of learning outcomes. The Bologna process for higher education has this as one of its aims. The fundamental reason for the use of learning outcomes for standards, curricula, qualifications and for descriptors in frameworks is transparency of what is expected of the learner and of the qualification that the learner holds.

The move towards learning outcomes is contested. In some situations (in higher education and TVET) it is believed that the learning gained in a program cannot wholly be described in learning outcomes, in other words the whole is greater than the sum of the parts. This corresponds well to the school of thought that considers 'communities of practice' as a key dimension of learning. Furthermore in some countries and institutions quality is maintained by investment in the further professionalisation of teachers and trainers and the ways these people judge what is needed in academic study and in the workplace. In these cases the use of learning outcomes is seen as a threat to the status and autonomy of teaching professionals. A third reason for being guarded about the transition to use of learning outcomes is that in many countries there is a tradition (often deeply embedded in cultures) of using programs as a means of organising education and training and it is clearly destabilising to undermine these traditions with what some will see as radical reform in a short timescale.

LEVELS AND DOMAINS

The structure of qualification frameworks generally include levels of complexity of learning outcomes, expressed as level descriptors. Domains are used within qualifications frameworks to describe areas of learning. The domains for the level descriptors vary across qualification frameworks. The aspects of learning that are included in the domains (for each level) reflect each country's education and training qualifications and system and its relationship to the country's history and economy (Bateman & Coles 2012).

Table 1 below outlines variations in terms of levels of complexity and domains.

Table 2: Overview of a sample of NQFs or Sector QFs

Framework	Levels	Domains
Australian	10	Summary – includes an outcome statement of the type of knowledge and skills a graduate will have for work and/or learning • Knowledge – is described in terms of depth, breadth, kinds of knowledge and complexity • Skills – are described in terms of kinds and complexity and include cognitive skills • Application of knowledge and skills – refers to the application of knowledge and skills in context and in terms of autonomy, responsibility and accountability.
Brunei Darussalam	9	• Duties – performing tasks that… • Knowledge/Skills – employing… • Leads to…
Cambodia (proposed)	8	• Knowledge • Cognitive skills • Psychomotor skills, • Interpersonal skills and responsibility • Communication, information technology and numerical skills
Croatia	8	• Knowledge • Cognitive skills • Practical skills • Social skills • Autonomy • Responsibility

Germany	8	• Professional competence
		   ○ Knowledge: depth and breadth
		   ○ Skills: Instrumental and systemic skills, judgement
		• Personal competence
		   ○ Social competence: Team/leadership skills, involvement and communication
		   ○ Self competence: Autonomy/responsibility, reflectiveness and learning competence

Hong Kong Qualifications Framework	7	• Knowledge & Intellectual Skills • Processes • Application, Autonomy & Accountability • Communication, IT and Numeracy
Indonesia	9	• Tasks • Knowledge • Responsibility • Communications/team work
Malaysia Qualifications Framework	10	• Knowledge • Practical skills • Social skills and responsibilities • Values, attitudes and professionalism

Framework	Levels	Domains
		• Communication, leadership and team skills • Problem solving and scientific skills • Information management and lifelong learning skills • Managerial and entrepreneurial skills.
New Zealand Qualifications Framework	10	• Knowledge – relates to the type of knowledge • Skills – relates to the kinds of skills as well as the problems and solutions applied • Application (of the knowledge and skills) – refers to the level of self management, management of others and responsibility.
Philippines	6 TVET and 4 higher education Proposed NQF - 8	TVET: • Process • Responsibility • Application Proposed NQF: • Knowledge & skills • Application • Degree of Independence
Scotland Qualifications and Credit Framework	12 (level 1 not described)	• Characteristic 1: Knowledge and understanding — mainly subject based • Characteristic 2: Practice — applied knowledge and understanding • Characteristic 3: Generic cognitive skills, eg evaluation, critical analysis • Characteristic 4: Communication, numeracy and IT skills • Characteristic 5: Autonomy, accountability and working with others
Singapore (WSQ)	7 TVET	Broad statements – 4 implicit • The kind of knowledge and skills involved • The kinds of issues or problems that the knowledge and skills are applied to • The amount of accountability, independence, self organisation or organisation of others that is required to solve problems or complete tasks • The occupational levels and range and depth of the knowledge and skills required of the jobs which the qualifications relates to.
Thailand	6 higher education - proposed NQF 9	Higher education: • Ethics and moral – related to habits of acting ethically and responsibly in personal and public life in ways that are consistent with high moral standards. Ability to resolve value conflicts through application of a consistent system of values • Knowledge - the ability to understand, recall and present information including: knowledge of specific facts, knowledge of concepts, principles and theories and knowledge of procedures • Cognitive skills - the ability to apply knowledge and understanding of concepts, principles, theories and procedures when asked to do so; and analyse situations and apply conceptual understanding of principles and theories in critical thinking and creative problem solving when faced with unanticipated new situations • Interpersonal skills and responsibilities - the ability: to work effectively in groups, and exercise leadership; to accept personal and social responsibility, and to plan and take responsibility for their own learning • Numerical analysis and communication and information technology skills - the ability: to use basic mathematical and statistical techniques, -communicate effectively in oral and written form, and to use information and communications technology Proposed NQF:

Framework	Levels	Domains
		• Knowledge • Skills • Application and attributes
The Netherlands	8	• Context • Knowledge • Skills: applying knowledge, solving problems, learning and development skills, information skills, communication skills • Responsibility and independence

VOLUME

Some NQFs use a volume of learning measure to describe the amount of learning. 'The concept of the "amount" or "volume" of learning can be used within some National Qualifications Frameworks (NQFs) in a number of ways'. A volume measure generally applies to specific qualifications or qualification types outlining 'expectations for the amount of time that would need to be devoted to the learning for the award of designated qualifications'. The 'amount or volume of learning is typically described as nominal or average time for a learner to achieve the learning outcomes'. It is also important to note that across the frameworks the 'notional learning time is not the same as time spent' (Bateman, Dunn & Vickers 2010).

NQF definitions vary slightly, with the following definition taken from the Malaysian Qualifications Framework:

> Credit is the quantitative measurement that represents the volume of learning or the academic load to achieve the learning outcomes[12].

National Qualifications Frameworks also use varying volume measures. Table 3 below outlines volume measures across various frameworks.

Table 3: Examples of Volume measures

Framework	Volume measures
Australian Qualifications Framework	Volume statement for the whole qualification is described as a duration measure e.g. 'The volume of learning for a Bachelor Degree is typically 3-4 years'.
Malaysian Qualifications Framework	40 hours of learning time equals 1 credit
National Qualifications Framework for Higher Education in Thailand (2006)	the minimum amount of learning normally expected of undergraduate students in one academic year of study is equal to 30 credit points
New Zealand Qualifications Framework	10 notional learning hours equals 1 credit
WSQ (Singapore) (SWDA 2007)	10 recommended training and assessment hours. (1 cv = 10 hrs) is equivalent to 1 WSQ credit value (cv)
Qualifications and Credit Framework (QCF) (England, Wales and Northern Ireland), the	1 credit point equals 10 hours of learning.

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[12] Malaysian Qualifications Agency (20??), p. ii.

Framework	Volume measures
Scottish Qualifications and Credit Framework and the Hong Kong Qualifications Framework	

Volume measures are generally utilised within a credit based qualifications system. By putting a value on a program (or sub components of a program) it allows stakeholders to describe and compare the amount of learning. Qualifications systems that utilise a volume measure do so to enable credit transfer and credit accumulation processes.

LESSONS LEARNED

NQFs have now evolved over a period of almost two decades across a vast range of countries, and in 2010 the ETF identified 110 countries[13] that have developed qualification frameworks. It is possible to identify some lessons for effective NQFs. Bateman, Keating, Burke, Coles & Vickers (2012) note that the following lessons have emerged:

- there are limitations to the learning outcomes approach in terms of how to quality assure the way they are defined and applied;

- there are dangers in over specifying or over engineering NQFs;

- NQFs need to be transparent, free from jargon and easily understood by all users;

- NQFs should be developed in consultation with the key and long established education and training providers, and other key stakeholders including employers, relevant government agencies and professional bodies;

- NQFs must be supported with effective infrastructure for assuring standards and quality; and

- NQFs need to evolve within national education and training and qualifications systems (Allais 2010, Allais et al 2009, Bjørnåvold & Grm 2011, Coles & Bjørnåvold 2010, Tuck 2007).

The future success of NQFs also depend on the response that is made to the following challenges (adapted from a presentation by Bjornavold 2012, Warsaw):

- The impact of NQFs depends on their ability to promote a shift to learning outcomes. They will be measured by their ability to act as catalysts and reference points for

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[13] Albania; Angola; Antigua & Barbuda; Argentina; Armenia; Australia; Austria; Azerbaijan; Bahrain, Bangladesh; Barbados; Belarus; Belgium; Belize; Bosnia and Herzegovina; Botswana; Brazil; Brunei Darussalam; Bulgaria; Cambodia; Canada; Chile; Colombia; Croatia; Cyprus; Czech Republic; Denmark; Dominica; Egypt; Eritrea; Estonia; Ethiopia; Finland; France; Georgia; Germany; Ghana; Greece; Grenada; Guyana; Haiti; Hong Kong; Hungary; Iceland; India; Indonesia; Ireland; Italy; Jamaica; Jordan; Kazakhstan; Kiribati; Korea; Kosovo (under UNSCR 1244); Kuwait; Kyrgyzstan; Lao People's Democratic Republic; Latvia; Lebanon; Lesotho; Lithuania; Luxembourg; Madagascar; Malawi; Malaysia; Maldives; Malta; Mauritius; Mexico; Mongolia; Montenegro; Montserrat; Morocco; Mozambique; Myanmar; Namibia; Nepal; Netherlands; New Zealand; Norway; Oman; Pakistan; Papua New Guinea; Philippines; Poland; Portugal; Republic of Moldova; Romania; Russian Federation; Saint Lucia; Samoa; Serbia; Seychelles; Sierra Leone; Singapore; Slovakia; Slovenia; South Africa; Spain; St. Kitts & Nevis; St. Lucia; St. Vincent and the Grenadines; Suriname; Swaziland; Sweden; Switzerland; Tajikistan; Thailand; The Bahamas; The Comoros; the Democratic Republic of Congo; The former Yugoslav Republic of Macedonia; The Gambia; Timor-Leste; Tonga; Trinidad & Tobago; Tunisia; Turkey; Tuvalu and Vanuatu; Uganda, Ukraine; United Arab Emirates; United Kingdom; United Republic of Tanzania; Viet Nam; Zambia; Zimbabwe.

learning outcomes based standards, curricula, assessment methods as well as teaching and learning methods.

- For the sake of trust - quality assurance of learning outcomes is a must;
- Will NQFs sustain and deepen involvement and commitment of stakeholders?
- The bridging and integrating role of the comprehensive NQFs needs to be better understood and developed.
- The role of NQFs in supporting and facilitating other instruments like validation and credit transfer needs to be further developed;
- NQF developments needs to be systematically monitored and there's now a need to agree on indicators allowing for a better understanding of conditions for success.

Regional Qualifications Frameworks

As discussed above some NQFs are linked into a network of NQFs by means of a regional meta framework. A regional qualifications framework or a common reference framework could be defined as 'a means of enabling one framework of qualifications to relate to others and subsequently for one qualification to relate to others that are normally located in another framework' (Commission of European Communities 2005, p. 13).

Tuck (2007) states that 'a common reference framework respects well established national traditions while simultaneously providing a clear basis for mutual recognition and mobility of labour' (p. 6). He also states that many countries have a long established qualifications system (not necessarily qualification *frameworks*) while others have been engaged in the processes of reform and that a common reference framework will strengthen a common understanding and cooperation.

A core purpose of a regional qualifications framework is 'enabling NQFs and national qualifications systems to align with or "talk to" each other' (Burke, Keating, Vickers, Fearnside & Bateman 2009). A common reference framework aims to:

- deepen integration and harmonisation;
- create a common identity;
- facilitate:
  - o transparency of multiple complex systems;
  - o mobility of workers and students;
  - o recognition and credit transfer; and
- support economic imperatives such as removal of barriers to trade[14].

Regional qualifications frameworks are different to bilateral, trilateral and multilateral agreements between national qualifications agencies, professional bodies and education providers for qualifications standards and recognition. Regional qualifications frameworks do not replace or undermine these agreements, but should support and enhance them.

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[14] Coles (2012) personal communication.

There is considerable variation in the characteristics of regional qualification frameworks and they vary in their purposes, coverage of sectors, design and their use (Keevy, Chakroun & Deij 2010, Tuck 2007).

There are several regional qualifications frameworks or common reference frameworks currently being developed or implemented. These are:

- The Caribbean Community (CARICOM)[15] has taken a number of initiatives in the area of occupational standards and qualifications. These developments have concentrated upon the efficient development of standards and qualifications across member nations, including a Competency Based Education and Training model, and the sharing of materials (CINTERFOR 2005). The framework is TVET focussed and provides descriptions of the knowledge and skills to be demonstrated as well as a common grid of skill levels for all qualifications included within the framework. The framework allows for "equivalences" to be established between elements of different qualifications; facilitates establishment of progression routes between: different fields of study, general and vocational education, learning in initial and further education, and qualifications obtained through formal and non-formal education and training.

- The purpose of the Southern African Development Community (SADC)[16] is to support the regional integration and mobility of labour through the greater mobility and portability of qualifications in the region. An initial step towards its development is a benchmarking initiative of quality assurance systems in the region. At this stage the SADC regional qualifications framework remains a concept only although in September 2011 Ministers responsible for education and training in the Southern African Development Community (SADC) approved the establishment of the SADC Regional Qualifications Framework (RQF).

- The Transnational Qualifications Framework for the Virtual University for Small States of the Commonwealth[17] is a translation device for 'the classification of VUSSC qualifications according to a set criteria for specified levels of learning achieved' (Keevy, West, Schmidt, Hope, Lene, Manabile 2008), p. 100).

- The European Qualifications Framework (EQF) is a common reference framework which links different country qualification systems and qualifications frameworks together. It is seen as a key instrument for the promotion of lifelong learning and its eight levels cover the 'entire span of qualifications, from those achieved at the end of compulsory education to those awarded at the highest level' (EQF 2010).

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[15] Member states includes: Antigua & Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat (Br.), St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Suriname, Trinidad & Tobago.

[16] Member states include: Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

[17] Member countries include: Antigua & Barbuda, Barbados, Belize, Botswana, Cyprus, Dominica, Grenada, Guyana, Jamaica, Lesotho, Maldives, Malta, Mauritius, Namibia, Papua New Guinea, Samoa, Seychelles, Sierra Leone, St. Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines, Swaziland, The Bahamas, The Comoros (non-Commonwealth), The Gambia, Tonga, Trinidad & Tobago, Tuvalu and Vanuatu.

- The Pacific Qualifications Framework (PQF) is a common reference framework that links to a regional register for national qualifications –the Pacific Register of Qualifications and Standards (Secretariat of the Pacific Community September 2011)[18]. The register and the framework are underpinned by a set of quality assurance standards for agencies (including the registration of providers and accreditation of qualifications) and minimum standards for providers. The quality assurance standards are supported by various policies and procedures, guidelines and criteria. All qualifications to be entered onto the register are to be referenced against the PQF e.g. a volume and level profile is included in the information on the register.

- The ASEAN[19] Qualifications Reference Framework (AQRF) is a common reference framework and will act as a translation device to enable comparisons of qualifications across participating ASEAN countries. The AQRF is still in the design phase.

As RQFs are translation devices, they must remain general in terms of specificity of the learning outcomes, with detailed outcomes based in each country's NQF. It is not implied that NQFs will have the same domains as the RQF or that an RQF will be the sum of all the parts of participating NQFs.

Table 4 outlines key characteristics of regional frameworks.

Table 4: Key characteristics of regional qualifications frameworks

Framework	Levels	Domains
ASEAN Qualifications Reference Framework	Proposed for discussion 8 – 10	Proposed for discussion: • Knowledge and skills: the kind of knowledge and skills involved • Application: the context in which the knowledge and skills are applied • Responsibility and accountability: the level of independence.
Caribbean Community (CARICOM)	5 TVET	Broad statements related to job roles: Semi-skilled, entry level worker (Supervised); Skilled Worker (Unsupervised); Technician/Supervisor, Master Craftsman/Technologist; Advanced professional/Senior manager.
European Qualifications Framework	8	• Knowledge – knowledge is described as theoretical and/or factual. • Skills - cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual

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[18] The PRQS development covers the fifteen Pacific Island Forum countries comprising Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Nauru, Niue, Marshall Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu plus Tokelau.

[19] ASEAN member countries include: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

		dexterity and the use of methods, materials, tools and instruments) • Competence – responsibility and autonomy
Pacific Qualifications Framework	10	• Knowledge and Skills – the kind of knowledge and skills involved • Application – the kinds of issues or problems to which the knowledge and skills are applied • Degree of independence – the amount of independence, or organisation that is required to solve problems or complete tasks
Southern African Development Community (SADC)	10	To be defined
Transnational Qualifications Framework for the Virtual University for Small States of the Commonwealth	10	The number of domains vary with the levels but generally address: • Knowledge • Skills • Level of autonomy

REFERENCING PROCESS

The way is which NQFs relate to a regional qualifications framework is defined as referencing. Referencing is a process that results in the establishment of a relationship between the levels of the common reference framework and that of the national qualifications framework (NQF) or system (Coles, Ulicna, Anderson, Mernagh and Luomi-Messerer 2011 as cited in Bateman, Keating, Burke, Coles and Vickers 2012).

In terms of the referencing process for the EQF, Coles et al (2011, p. 10) indicate that 'only national qualifications *levels* are formally linked to the EQF through the referencing process' and that 'there are no qualifications directly referenced to the EQF and there is no process envisaged to make this a possibility'. Coles et al (2011) also states that referencing to the EQF is best achieved through a national qualifications framework (NQF).

Bateman, Keating, Burke, Coles and Vickers (2012) note that the referencing process of the EQF requires each country 'to refer their national qualifications levels to the EQF by 2010' (EQF 2009) and includes publishing a report. The EQF referencing process includes 10 broad referencing criteria and also includes comparing 'the descriptors of the levels of the national qualifications framework or system with those of the EQF (written as learning outcomes)' (Coles et al 2011, p. 28). Bateman, Keating, Burke, Coles and Vickers (2012) note that the when comparing the levels of the national qualification framework and that of the common reference framework there may not be a direct alignment, however the notion of 'best fit'

generally applies. This notion of 'best fit' requires an agreement between the stakeholders so 'that there can be confidence in the outcome of the approximation' (Coles et al 2011, p. 32)[20]. Examples of referencing reports can be sighted at ec.europa.eu/education/lifelong-learning-policy/doc44_en.htm

However Bateman, Keating, Burke, Coles and Vickers (2012) note that the countries could, if there is no national qualifications framework, align their key qualifications or qualification types to a regional framework.

The referencing process is critical to the operation of a high status and fully operational regional framework. The EQF is arguably the most advanced regional framework and by February 2013 will have 20 countries[21] aligned with it through a rigorous referencing process. The criteria that each country has to meet (and justify this to the other EU countries) concern the following areas:

- All competent bodies are involved and sign up to the referencing outcome (level to level match) and the referencing process (meeting these criteria);

- A full justification to an external audience of the level to level matches;

- An explanation of the use of learning outcomes, credit and validation;

- A full explanation of the allocating of qualifications to NQF levels;

- A description of QA processes in the country to an external audience;

- An explicit sign up to the report from all QA bodies;

- Proof that International experts were involved in the process;

- The country provides one unanimously accepted report of the referencing;

- Steps are taken to give visibility to regional framework levels on certificates

- The level to level match is published on a public portal (refer to http://ec.europa.eu/eqf/home_en.htm)

CONCLUSION

This paper has briefly outlined key features and concepts of qualification frameworks and quality assurance systems. It is written to form the basis of discussion and to facilitate a deepening of understanding of the forms and functions of qualifications frameworks as well as understanding better the reasons for their increase in numbers in recent years.

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[20] Coles et al (2011) note that the notion of best fit does not mean that qualifications in the level are considered equal or equivalent or hold the same value.

[21] Austria, Belgian FL, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, England/Northern Ireland, Scotland and Wales

ACRONYMS

APEC – Asia Pacific Economic Community

APQN - Asian Pacific Quality Network

AQF – Australian Qualifications Framework

ASEAN - Association of South East Asian Nations

CARICOM - Caribbean Community

ECTS - European Credit Transfer and Accumulation System

EQF - European Qualifications Framework

MQF – Malaysian Qualifications Framework

MRAs -Mutual Recognition Arrangements

NQF – National Qualifications Framework

NZQF – New Zealand Qualifications Framework

PQF - Pacific Qualifications Framework

RQF - Regional Qualifications Framework

SADC - Southern Africa Development Community

TVET – Technical and Vocational Education and Training

VUSSC - Virtual University for Small States of the Commonwealth

WSQ – Singapore Workforce Skills Qualifications System

GLOSSARY[22]	
Accreditation	The process of assessment and official approval of a qualification or component(s) of a qualification, usually for a particular period of time, as being able to meet particular requirements or quality standards defined by an accrediting agency that functions within a quality assurance system.
Accredited qualifications	Qualifications which have been accredited or granted approval by an accrediting agency or organization as having met specific requirements or standards of quality.
Accrediting agency	Accrediting agencies are those entities that manage program accreditation under national legislation e.g. national qualifications agencies, official review boards or other nationally approved bodies or agencies with the remit to accredit qualifications. All accrediting agencies are subject to ongoing monitoring and periodic review of their performance against standards.
Achievement standards (in education and training)	Statements approved and formalised by a recognised body, which defines the rules to follow in a given context or the results to be achieved. A distinction can be made between competency, educational, occupational or certification standards: • competency standard refers to the knowledge, skills and/or competencies linked to practising a job; • educational standard refers to statements of learning objectives, content of curricula, entry requirements and resources required to meet learning objectives • occupational standard refers to statements of activities and tasks related to a specific job and to its practise; • certification standard refers to statements of rules applicable to obtaining a qualification (e.g. certificate or diploma) as well as the rights conferred[23].
Awarding body	Awarding bodies issue qualifications. This could include government agency such as the Ministry of Training or a University.

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[22] A range of these definitions have been sourced from the Secretariat of the Pacific Community (September 2011); Burke et al (2009); Bateman, Keating, Burke, Coles & Vickers (2012); and Bateman, Keating, Gillis, Dyson, Burke &Coles (2012) unless otherwise noted.

[23] Adapted from CEDEFOP 2011, p. 109.

Comparability	Comparability is the comparison of one qualification with another, based, most often, on a common format or instrument - such as comparability tables – that enables the 'face value' of a qualification to be established. The act of comparing enables judgments to be made about the equivalence (sameness) of qualifications[24].
Credit transfer	Credit transfer is a process that provides students with agreed and consistent credit outcomes for components of a qualification based on identified equivalence in content and learning outcomes between matched qualifications[25].
Descriptors	Descriptors describe the qualification types or of units within qualifications.
Design rules or formula	Design rules or formula describe the size of the qualification and/or what it can be made up of. For example 50 per cent of learning must be at level 3.
Learning outcome (or outcomes-based)	Learning outcomes are clear statements of what a learner can be expected to know, understand and/or do as a result of a learning experience. Learning outcomes provide a clear statement of achievement.
Levels	A stage in a hierarchical system used for grouping qualifications that are deemed to be broadly equivalent. The level typically refers to the complexity of learning outcomes in any qualification.
Naming rules	Naming rules or conventions are requirements for the allocation of qualification type titles.
National Qualifications Framework	National qualifications framework[26] (NQF) is an instrument for the development and classification of qualifications according to a set of criteria or criteria for levels of learning achieved. This set of criteria may be implicit in the qualifications descriptors themselves or made explicit in the form of a set of level descriptors. The scope of frameworks may be comprehensive of all learning achievement and pathways or may be confined to a particular sector, for example initial education, adult education and training or an occupational area. Some frameworks may have more design elements and a tighter structure

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[24] Keevy, Chakroun & Deij (2010), p. 91 & 92.

[25] AQF 2011.

[26] Coles & Werquin (2006) p. 22.

	than others; some may have a legal basis whereas others represent a consensus of views of social partners.
Provider	A person or an organisation that plans and delivers education/training and assessment services that leads to the award of qualifications or components of qualifications.
Qualification	Qualification[27] is a formal certificate issued by an official agency, in recognition that an individual has been assessed as achieving learning outcomes or competencies to the standard specified for the qualification title, usually a type of certificate, diploma or degree. Learning and assessment for a qualification can take place through workplace experience and/or a program of study. A qualification confers official recognition of value in the labour market and in further education and training.
Qualifications framework[28]	An instrument for the development and classification of qualifications (e.g. at national or sectoral level) according to a set of criteria (e.g. using descriptors) applicable to specified levels of learning outcomes.
Qualification system	Qualifications system[29] includes all aspects of a country's activity that result in the recognition of learning. These systems include the means of developing and operationalising national or regional policy on qualifications, institutional arrangements, quality assurance processes, assessment and awarding processes, skills recognition and other mechanisms that link education and training to the labour market and civil society. Qualifications systems may be more or less integrated and coherent. One feature of a qualifications system may be an explicit framework of qualifications.
Quality assurance	Quality assurance is a component of quality management and is 'focused on providing confidence that quality requirements will be fulfilled'[30].
	In relation to education and training services, quality assurance refers to planned and systematic processes that provide confidence in the design, delivery and award of qualifications within an education and training system. Quality assurance ensures stakeholders interests and investment in any accredited program are protected.

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[27] Coles & Werquin (2006) p. 21 & 22.

[28] CEDEFOP 2011.

[29] Coles & Werquin (2006), p. 22.

[30] AS/NZS ISO 9000:2006: Quality management systems—Fundamentals and vocabulary, p. 9.

Recognition of prior learning (RPL)	Recognition of prior learning (RPL) is an assessment process that involves of an individual's prior learning (including formal, informal and non-formal learning) to determine the credit outcomes of an individual application for credit[31].
Recognition Tool	A Recognition Tool is a means of improving the information conveyed in a certificate or diploma. One form of tool is the Diploma Supplement. E.g. from the University of Nottingham: 'This Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the Supplement is to provide sufficient independent data to improve the international "transparency" and fair academic and professional recognition of qualifications (diplomas, degrees, certificates, etc.)'.
Regional framework	A means of enabling one framework of qualifications to relate to others and subsequently for one qualification to relate to others that are normally located in another framework[32].
Registration of providers	Registration processes include formal acknowledgement by a registering body that a provider meets relevant standards. Under NQFs it is usual for a provider to be registered in order to deliver and assess accredited programs and issue awards. Some agencies differentiate between the two processes, e.g.: • Formal acknowledgement that the provider meets key generic standards • Formal acknowledgement that the provider meets specific standards related to the provision of teaching, learning and assessment of a specific program. For the purpose of the ASEAN project, registration of providers is the term used for both processes.
Registering agency	Registering agencies/ bodies are those entities that responsible for registering education and training providers e.g. national qualifications agencies, official review boards or other nationally approved bodies or agencies.
Sectors	Sectors refers to the main subgroups within education e.g. schools, TVET and higher education (universities).

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[31] AQF 2011.

[32] Commission of European Communities (2005), p 13.

Taxonomies	Taxonomies (or classification systems) are used to list the type of learning outcomes achieved at each level within a NQF. Examples are 'complexity of knowledge', 'degree of application' and 'level of autonomy.'
Unit	The smallest component of a qualification; also known as subjects, modules, courses, papers, competencies, components. This is the smallest part of a qualification or program that can be separately assessed and certified.
Volume of learning measure	The volume of learning can be measured in terms of notional learning time for the complete qualification or for a unit. Notional learning time is the time it takes an average learner to achieve the learning outcomes of a unit of a qualification or the complete qualification. Notional learning time includes time in direct contact (as in lectures and tutorials); practical and field work; time in independent study; and time spent doing assessments. For example 1 credit = 10 hours learning time, or 1 credit = 40 hours.

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