

Developing an American Credentials Framework: Learning from International Experiences and Re-Examining the U.S Credentialing System

Since the late 1990s, the development of National Qualifications Frameworks (NQFs)¹ has been a major international trend in reforming national education and training credentialing systems, initially mostly among English-speaking developed countries. To date, over 150 countries throughout the world have recognized their value to economic competitiveness and the desire to attract skilled talent to their economy.

While there are a number of potential benefits, as many studies attest to, the international experience suggests that the development of an NQF can also be technically, institutionally and financially demanding. Establishing an NQF, in a mechanical sense, may be a relatively quick exercise. However, it takes time to achieve results in terms of more people participating in training or improving the quality of training. It is important to understand both the preconditions and potential pitfalls and how it can be developed, especially the technical and institutional complexity. While an NQF can be a useful tool in addressing a number of the skills challenges, there is no single or universal form of NQF which can solve all skills problems. Its implementation needs to be fit-for-purpose with clear objectives in mind. Without clear objectives and an understanding of how an NQF can best be developed, NQF implementation can be a lengthy and costly investment.

In their most basic sense NQFs can be understood as classifiers specifying the relationship – horizontally and vertically- between different qualifications. This is not a new idea. For many centuries the trade organizations in many countries have exercised control over the right to practice in relation to explicitly defined hierarchies of skills within the trades. Parallel hierarchies were developed by universities and have been widely accepted as regulators of academic progression - within and between countries. These well-known arrangements can be seen as forerunners of the national and international qualifications frameworks currently being developed and implemented.

What is new about the modern national qualification frameworks is the interest of governments in developing comprehensive frameworks that incorporate qualifications from different education and training sectors (general, vocational and academic). The new frameworks are thus often linked to lifelong learning strategies and are also in many cases open to the learning taking place outside formal education and training, at work and in leisure. These modern NQFs potentially go beyond the role of classifiers (“qualification grids”) and aim at a redefinition of the way qualifications are related to each other, how they are valued and eventually put into use in our societies. Modern NQFs can thus be described as “instruments with a vision” questioning current education and training practices and challenging existing professional and sectoral interests.

¹*Internationally, the word “qualifications” is the primary term used to describe the competencies an individual has attained or that a credential represents. In the United States, the term “credentials” is used instead. Throughout this discussion, both terms will be used depending on the domestic or international context.*

Designing an NQF is thus something more than agreeing one set of technical features (a hierarchy of levels of learning); it is about creating a platform for cross-institutional and cross-sectoral dialogue and – eventually– mutual trust. A comprehensive National Qualifications Framework is something distinct from overarching frameworks. It covers all levels and parts of education. Many of the national qualifications frameworks that have been developed so far are comprehensive. The European Qualifications Framework (EQF) is a comprehensive and overarching framework, since it covers several systems and all levels and kinds of education. The QF-European Higher Education Area (EHEA) is overarching, since it covers several education systems, but, similar to the DQP, it is not comprehensive, since it covers only higher education. Reflecting the above vision of comprehensive NQFs, the last few years have seen a dramatic increase in interest and activity.

What are Qualifications Frameworks and what are their Benefits?

1. A Framework provides a common language and structure to understand and describe the underlying learning outcomes and competencies represented by any credential.
2. Qualifications Frameworks can assist us in answering two critical questions: Does our curriculum reflect the competences that a specific business/industry sector wants their employees to know and be able to do? And can our graduates—at whatever credential level or point in the career pathway—demonstrate that what they know and can do?
3. NQFs are mainly platforms for extensive cooperation and dialogue between national stakeholders, between users and providers of qualification and certification. Their added value very much depends on the quality of this cooperation.
4. NQFs can serve as an external and shared reference point. Whether the emerging NQFs in other countries should be understood as communication or reforming frameworks will depend on whether they actively inform and influence the definition and description of qualifications. It will also depend on whether they take on the role of national gatekeepers, thus defining the scope and character of the overall national qualification system.
5. Qualifications Frameworks reflect global education and training trends including: A converging demand for a workforce with multi-skills and cross-functional competencies as appropriate problem solvers in work process; workers must be lifelong learners who have learned how to learn and apply knowledge and innovation to new ideas and methods (beyond the expert to adaptive expertise); promote our global competitiveness and increase our workers' employability by assessing learning of competencies and ensure up to date certified standards along with appropriate learning content and training methods; and respond to a growing demand for transparency of sector specific competencies and occupational qualifications to promote national and international mobility.
6. Qualification Frameworks promote transparency, coordination and quality assurance among multiple higher education systems. In Europe, for example, the results have included: the award of comparable degrees based upon defined, criterion-referenced learning outcomes; promotion of college access and student mobility; an embracing of the need for increased degree attainment; and shared approaches to ensure educational quality. In the decentralized educational and credentialing infrastructure of the US, credentials of all types and forms are developed and conferred by multiple institutions and bodies without a common structure or standard. While this approach is both market driven and supportive of

continued innovation, the actual content, learning outcomes and quality of a credential are not clear or obvious to the individuals making educational or preparation choices, the educators that have to make educational decisions, or the employer that must interpret and rely on the evidence represented by a specific credential.

Major Options in Developing Qualifications (Credential) Frameworks

At the macro level, there are two types of frameworks and the international examples studied cover the entire spectrum of possibilities. In academic articles and varying geographic contexts, the names used in describing the two schools of frameworks differ slightly – including tight/loose, regulated/de-regulated, reforming/communication and mandatory/advisory. Some of the key differences are highlighted below¹:

Tight/Regulated/Reforming/Mandatory	Loose/De-regulated/Communication/Advisory
Advocating for new systems or regulatory structure	Improving the existing qualifications system, by strengthening coherence, relevance and quality.
Prescriptive about design and quality assurance	Informative, education role
Common rules and procedures for all qualifications	Maximum flexibility, accept different approaches where necessary
Wider social goals	Incremental social goals

A comprehensive framework must include all credentials (e.g. the American Credentials Framework is an overarching comprehensive framework but the DQP is overarching but not comprehensive because it includes only degrees). The EU area for education and training for lifelong learning uses qualifications frameworks for: **an awarding instrument of credentials** (e.g. Ireland); **a voluntary reference instrument** (e.g. Germany, Scotland); **an integrated credit transfer system** (e.g. Scotland); **a voluntary reference system without credit transfer system** (e.g. Germany); and **a sector competency and qualifications frameworks** (e.g. European Competency Framework--without reference to credentials but competencies--and the European ICT Qualifications Framework which references credentials). Of the two models shown above, the federal nature of the U.S. and as well as the strong emphasis on privatization and decentralization are strong characteristics that impact on credentials frameworks since they generally give the state more control of education and training which is why we discuss the voluntary nature of the proposed American Framework. The majority of countries with Qualifications Framework do not have Federal governance systems with a few exceptions, such as Australia.

The role of an overarching framework also includes the following options:

¹ Cedefop

1. Does the Framework as an overarching credential framework serve as a reference instrument with specific functions for all kind of postsecondary credentials (Clarification of the key terms concerning the function and the objectives of the instrument: Credential, credentialing system etc.)?
2. Does the Framework function as a classification of competency oriented credentials or learning outcomes (as a basis of credentials)?
3. Does the Framework integrate with or link to a credit transfer system (European QF can include VET and HE in addition to primary-secondary (school leaving qualifications and dual vocational models), for use as voluntary reference instrument or obligatory awarding instrument (does it award credit and/or qualifications)?
4. Does the Framework align to secondary education system (e.g. via a competency oriented credit transfer system)?
5. Does the Framework align with Prior Learning Assessment?

The European Qualifications Framework (EQF) as an International Model

The EQF represents a new approach to European cooperation in the field of qualifications. The introduction of a set of learning outcomes based reference levels/descriptors spanning all forms of qualifications and the entire range of qualifications levels have not been attempted previously. Successful implementation of the EQF therefore requires that there be a clear understanding of:

- The objectives and main intended functions of the framework;
- The principles and logic applied when defining the framework (how the descriptors were constructed, how they should be read);
- The requirements to implementation (in terms of stakeholder involvement, transparency, quality assurance and peer review).

The EQF has been designed to act as a reference for different qualifications systems and frameworks in Europe. It takes into account the diversity of national systems and facilitates the translation and comparison of qualifications between countries. In this sense the EQF is a framework for frameworks and/or systems and it can therefore be defined as a “Meta-framework”. (A qualifications framework can be seen as part of a qualifications system in which the levels of qualifications are explicitly described in a single hierarchy.) This meta-framework will enable qualifications systems with their implicit levels or/and national and sectoral qualifications frameworks to relate to each other. In the process of implementing the EQF it is intended that each country will reference its national qualifications (in terms of diplomas, certificates or awards) to the eight EQF levels via national qualifications frameworks or the implicit levels in the national qualifications systems. This means that in the first stage levels of national qualifications frameworks or parts of qualifications systems will be referred to the EQF levels. In the long run, all qualifications awarded in Europe as well as other countries who seek to develop an agreement to reference their NQFs to the EQF as Australia has done.

The EQF distinguishes between knowledge, skills and competence (KSC) as basis of its framework, because it was recognized as one of the most established way for categorizing learning outcomes. “More correctly, the EQF should be called a ‘qualifications framework based on learning outcomes’”.

Except for Competence, which is a term recognized throughout Europe, the EQF is compatible with the U.S. learning domains of Knowledge, Skills and Abilities (Social and Personal Abilities) (in the English-speaking countries, the conventional categorization is between “cognitive competence”, “functional competence” and “social competence”).

Presentation of the EQF descriptors in a table with three columns should facilitate understanding of the EQF and the assignment of qualifications. If the table format results in contradictory interpretations, the columns should be seen as of secondary importance. Consequently, this means, that one should simply read the whole line (knowledge, skills and competence) and judge – all in all – in which of the levels the group of qualifications fits best. This way of reading the descriptors will help to establish ‘the center of gravity’ of the qualification in question and thus make it possible to decide where to place it in relation to the EQF. This illustrates that due to the diversity of qualifications at national and sector level there will never be a perfect or absolute fit to the EQF levels - the principle of best fit has to be applied instead.

Comparing the European EQF, NQF, DQP and the American Framework: Learning Outcomes and the “Use of Competence”

As noted above, The EQF differentiates between Knowledge (“knows”), Skills (“can”), Competence (“is able to”). The Irish NQF follows this differentiation with “Know How” added. The German QF defines competence from a holistic point of view including all other categories like knowledge, skills etc. to describe learning outcomes (Professional Competence—skills and knowledge and Personal Competence-social competence and autonomy). The German QF defines in this context as: “Competence is understood in this sense as ‘comprehensive action skills.’” And, in more detail, “Competence within the German NQF describes the ability and readiness of an individual to use knowledge, skills and personal, social and methodological competences and to behave in a considered, individual and socially responsible manner.

The EQF’s differentiation between knowledge, skills and competence can therefore be seen as a pragmatic agreement between the various, widespread approaches and does not oblige countries to do the same. National or sectoral frameworks or systems may require different approaches, taking into account specific traditions and needs.² The KSC differentiation of learning outcomes helps to clearly construct descriptors and to more easily classify the levels of qualifications. Nevertheless, these three categories (KSC) should not be read in isolation from each other, but they should be collectively perceived. Thus, to grasp the characteristics of one level requires also “horizontal reading”.

These classifications have some inherent permeability between each other. Similarities may exist between the categories (e.g. the column “competence” includes certain skills; the column “skills” also contains certain forms of knowledge). In national, regional or sectoral qualifications frameworks, descriptors can be adapted to their respective aims and objectives (e.g. country-

² Competence is the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. *Source:* European Commission, 2006a. This is also described as the ability to apply learning outcomes adequately in a defined context (education, work, personal or professional development). Competence is not limited to cognitive elements involving use of theory, concepts or tacit knowledge), it also encompasses functional aspects (involving technical skills) as well as interpersonal attributes (e.g. social or organizational skills) and ethical values. *Source:* Cedefop, Tissot, 2004; European Commission

specific or sector-specific needs). That's why there is no general or only one valid way to use descriptors; different ways are possible (compare the Irish and German NQF for example.) Also as a result of diverse credentials, as in the EQF, a credential may fit into a certain level in one column, whereas at the same time they fit into another level of another column. There might be very different qualifications according to the complexity of knowledge or the range of skills required, but they can be just as difficult to achieve. For example, some credentials might require more theoretical and factual knowledge but less practical skills such as an apprenticeship which more practical skills but less theoretical and factual knowledge. One column of the learning outcomes is not more important than another but all of the dimensions are equally important and the order of the columns is not meant to be of any particular consequence.

Structurally, the EQF was designed to promote parity between academic and work routes and it acts as a neutral reference point for all different types of credentials. In this sense, all the dimensions of the table are of equal value. A qualification may fit perfectly in a certain level in one of the columns, but according to the descriptors in another column, at first sight, may seem to fit better in another level. The order of the columns is not significant.

The US DQP doesn't reference "Competence" but its 5 broad learning outcomes (Areas of Learning: Specialized Knowledge, Broad Integrative Knowledge, Intellectual Skills, Applied Learning, Civic and Global Learning) is not incompatible with the definition of "Competence" in the EQF that "means the proven ability to use knowledge, skills and personal, social and and/or methodological abilities." Competence in the EQF is described in terms of responsibility and autonomy.

The American Credentials Framework has been designed to be compatible not only with other Qualifications Frameworks but also with the competency models that are currently in wide use in the U.S. for use in hiring, promotion, and professional development that differentiate between Knowledge, Skills, and Abilities (KSAs) that are defined as the attributes required to perform a job and are generally demonstrated through qualifying service, education, or training.

- Knowledge - Is a body of information applied directly to the performance of a function.
- Skills - Is an observable competence to perform a learned cognitive and psychomotor skills.
- Ability - Is the competence to perform an observable behavior or a behavior that results in an observable product.

In 1999, the European Ministers recognized that there was not a dichotomy between occupational competency that every graduate has to achieve occupational competencies and that the integration of both academic and occupational competencies produced the applied knowledge and other descriptors along with issues such as social competence (e.g. German Qualification Framework). This was in contrast to the Higher Education Cycle that characterized the first part of the Bologna Process and codified more directly in the later European Qualifications Meta-Framework, the European Qualifications Framework (EQF).

The issue still exists whether "professional" can serve as a cross reference for occupational. This disconnect in the US is similar to other countries as CTE is in both the secondary educational system and the Higher Education system administered by separate sections of the nation's 6 regional accreditation association. The emphasis on acquisition of "job specific skills" for VET and the Sector Specific KSAs are integral to their framework as the focus of both VET

and CTE (Industry required KSAs must be referenced to EQF and National QF and as part of the US framework. See Typology of knowledge, skills and competences: clarification of the concept and prototype (Winterton, Delamare - Le Deist, Stringfellow, 2005), Centre for European Research on Employment and Human Resources Groupe ESC Toulouse. Research report elaborated on behalf of Cedefop/Thessaloniki).

Thus, in the US, the idea of a national credentials framework for lifelong learning that recognizes alternative learning and non-degree qualifications/credentials is still a debating point of whether it can exist with academic degrees without reference to the fundamental application of cognitive knowledge to professional applicability. Similar to other countries, particularly Europe, the American QF seeks to promote the value of all learning and to link credentials to develop and build in options that allow levels to be differentiated in such a way as to allow them to be flexible to be inclusive of the meta framework while not being restrictive to alternative qualifications that may only match a portion of the specific level.

We need to be clear as to what the purpose of the overarching framework represented by our Framework models of qualifications, levels and descriptors and what resonates for our purposes and is best understood by the major stakeholders. Beyond transparency and comparability, it is about other non-formal and informal learning and the quality assurance issues. At our level (the QF (reference framework), the learning outcomes are broader domains and not content specific but in looking at other models can be rewritten. The initial Bologna Process focused on the HE Cycle (degrees) and did not address the other forms of non-institutional learning—thus the EQF in 2008 which over 150 countries have agreed to use.

Level Differentiation

There is no magic number regarding the number of levels in all national contexts, fields of study, sectors or domains. The EQF recognizes that in some areas there may be no higher credentials level available or only lower or even above its level 8. Further, the EQF is a translation device between different national contexts and a reference point for all credentials in the EU and other countries seeking portability of their credentials and there are examples of cross walks internationally between the EQF and non-European countries (e.g. Australia has developed an agreement with the EQF for its students) as well as EU members or affiliate partners. Nor do they have to be acquired in the same sequence. There will be patterns where students will gain multiple credentials at the same level or move from a higher level to a lower level if new learning occurs and new skills are acquired (a frequent example is a baccalaureate student deciding to obtain a ADN in Nursing.

The German Level 4 (Sub-Associate) includes formal VET credentials based on apprenticeships and full time VET (but these are formal parts of the educational system). Level 5 (Associate or usually referred to as “short cycle programs” in the EU). There are only a few non-formal VET credentials in the German QF currently referenced to level 5 exclusively (IT Specialists, certifications) which can be regarded as equivalent to the Associate in the DQP. ICT levels in German currently range from Level 4 Entry Level Skilled Worker to Levels 7 and 8, technically to the same levels as Bachelor and Master’s level. In Europe, the EQF levels are only a ladder in the sense that the associated learning becomes more complex and makes greater demands on the learner or the worker. Each of our Learning Domains cite the factors for each level of learning outcomes and competencies such as in Knowledge (e.g. Depth, Breadth and

Dimensions). The EQF lists 5 factors recognizing there could be more but the key determinant is “increasingly greater demands.”

Similar to the proposed American Qualifications Framework and the DQP, the EQF does not necessarily refer to all competencies because they are an integral part of knowledge skills and abilities, just as the EQF does not directly refer to what they regard as more general “meta-competencies” such as ethical competence because is so important to the development of autonomy and responsibility.

Descriptors

The American Credentials Framework, reflecting the intent of other international NQFs, have consciously sought to rework the descriptors in our Framework to language more inclusive of work and employment learning outcomes and competencies and academic or transfer oriented (e.g. compare with QF 5 with Level 6 BA or DQP “...competencies for the autonomous planning and processing of comprehensive technical tasks assigned with a complex and specialized field of study or a field of occupational activity subject to change”) and we have mapped over work done with Applied Associates as well as some Bachelor and Master’s degrees. The Birtwistle/Rein study of the DQP and the credential framework did not reveal any incompatibility including degree and non-degree credentials (see report in Appendix).

Another key area that has received less attention in the U.S. with the initial focus on Degrees in the DQP to explore in more detail is the use of industry sector specific qualifications frameworks which must be applicable across state borders and even internationally (automotive, for example) lines and list job specific KSAs. The most successful example of the many projects is the European eCompetence Framework (e-CF), a common European Framework for ICT Professionals in all industry Sectors. In 2 countries, Ireland and Germany, IT Certifications have been positioned within the in the NQFs. In Ireland and in Germany. In Ireland, the following Microsoft Certifications albeit it on different levels in Germany and Level 6, Special Purpose Awards.

Key Issues in European Implementation

In 2004 the EU member states agreed on the development of qualifications frameworks on the national and the European level, to promote lifelong learning and employability, which should classify all formally, non-formally and informally achieved learning outcomes according to a set of competence oriented criteria for specified levels. They aim to integrate and coordinate qualifications subsystems and improve the transparency, access, progression and quality of qualifications in relation to labor market and civil society. Reaching this point has taken over a decade with mixed progress and varying states of implementation, depending on navigating the member nation’s Ministries of education and reconciling national issues and politics with the EU Commission.

Two Credit Systems-Integration of Higher Education and Vocational Education Training-VET

The EU and its educational partners face a challenge in bridging the higher education and VET systems reflected what Tim Birtwistle has referred to as Europe’s “relatively structured higher education systems and the very disparate VET environment.” The U.S. reflects this division to

some degree with its VET equivalent, Career and Technical Education (CTE), offered both at the community college level and high school. The Associate Degree, referred by Europe as a “short cycle degree program” may be included in the Higher Education cycle, (if they don’t already have a direct equivalent either with the U.S. Associate Degree and/or the existence of American models of “community college”). The two types of Associate degrees, the Applied Associate Degrees that are focused on immediate employment and those associated with Associate degrees directed at transfer disciplines can be differentiated by levels reflecting the current division between Higher Education and VET as well as Higher Education and CTE in the U. S. The EQF and NQF summarized in the Appendices have made some notable progress in recognizing non-degree credentials and learning. But progress is very uneven, from terminology issues between the two credit systems (see below) to the role of the Awarding Organizations (the Irish QQI has integrated a number of Awarding Organizations under its direction which is facilitating incorporation of other providers into the national qualifications framework). Germany’s NQF has incorporated the detailed work of the ICT sector into its Level 5 (the same level for the short cycle programs). But the European context of Employer roles in educational and training and the same for the “Social Partners” represent a different context for the U. S. (although there is now a ‘third wave’ of interest in Europe’s Dual Vocational System in the U.S. and some promising new models that our project has found with Manufacturing, for example).

Currently, Europe has two credit systems that students must earn units to qualify for Higher Educational or Vocational Qualifications: the European Credit system (ECTS), the credit system for higher education and is compatible with the Bologna Framework for Qualifications and the European Qualifications Framework for lifelong learning (EQF). It is based on learning outcomes based on the workload students need to achieve expected outcomes. They relate to level descriptors in national and European qualifications Frameworks. Students can accumulate credits and may apply for learning in other learning contexts or timeframes depending upon institutional assessment.

The second, the 2009 European Credit system for Vocational Education and Training (ECVET), is also based on learning outcomes from VET providers and employers based on the EQF knowledge, skills and competence and students can achieve units of learning outcomes that can be assessed, validated and recognized that can provide students with ECVET points and credit transferred to achieve qualification standards in participating countries that can be achieved in a wide variety of learning contexts. The current situation shows little to mixed movement to addressing issues of terminology and points vs. credits between the systems although there are some notable developments in integration and cross walking Levels that have a direct relevancy for our project.

Multiple Descriptors and Levels Different from the EQF

The EQF as the meta-framework. NQF or sector frameworks can be adapted based on country or sector specific aims and objectives (for example see the different descriptors in the Australia or Irish descriptors in the Appendix). The broad descriptors in the EQF—and we have designed the current version of the American Credentials Framework in the same way—to be compatible with other frameworks such as the DQP and the EQF and other international frameworks because they enable comparability and comparison. There is no issue with countries that have different levels than the 8 EQF Levels because those countries (and sector initiatives) that are utilizing the EQF vary widely depending on the national or sector context and regulatory environment (Ireland’s 10 include major “awards” and each has 3 additional minor awards, for

example). And, countries have modified the number (and type--where specified) of levels based on evaluation and experience (see Australia). Particularly in the UK and Ireland where there are wide differentiations, cross walking the EQF levels with the NQF and sector QF have been developed to assist students and other stakeholders in seeing where their levels are referenced in the EQF (see the Irish Chart below):

An example of the relationship of the various qualifications, awards, certificates, etc. in the 8-level EQF is provided by the Quality and Qualifications Ireland (QQI). This is the National Coordination Point for the EQF. Note that vocational education qualifications are included.

EQF Level	EHEA Framework (Bologna)	National Framework of Qualifications (NFQ) Level	NFQ Major Award-Types
EQF Level 1		NFQ Level 1	Level 1 Certificate
EQF Level 2		NFQ Level 2	Level 2 Certificate
EQF Level 3		NFQ Level 3	Level 3 Certificate; Junior Certificate
EQF Level 4		NFQ Level 4	Level 4 Certificate; Leaving Certificate
EQF Level 5	Short Cycle within First Cycle	NFQ Level 5	Level 5 Certificate; Leaving Certificate
EQF Level 6	First Cycle	NFQ Level 6	Advanced Certificate (FET award); Higher Certificate (HET award)
EQF Level 7	Second Cycle	NFQ Level 7	Ordinary Bachelor Degree
EQF Level 8	Third Cycle	NFQ Level 8	Honours Bachelor Degree; Higher Diploma
		NFQ Level 9	Masters Degree; Post-Graduate Diploma
		NFQ Level 10	Doctoral Degree; Higher

Awarding Credit

Given the shift to performance outcomes over input measures (as heard in the U. S Credit Hour debate) and the growing support for more competency-based learning, the experiences of NQF's that oversees the recognition of credit and qualifications, either as an official entity or with "awarding bodies" responsible for issuing credit and credentials, is instructive. The UK credit framework, similar to the description below from Wales, has agreed and adopted a similar model for credit. In this model, credit is a measure of the "Learning Time" assigned to a set of learning outcomes. The Credit and Qualifications Framework of Wales (CQFW) also accepts a number of other, similar definitions of Learning Time within the overall framework; this is a result of the recognition of the different contexts and histories of development in different sectors. Learning Time in this context a measure of the learning substance of a module/unit or a whole qualification. It is related to the amount of time a typical learner might be expected to take to complete all of the learning relevant to the achievement of the learning outcomes. Learning time is the number of hours it notionally takes a learner, on average, to achieve a learning outcome. Learning Time is related only to the achievement of the specified learning outcomes. Taught or contact time varies according to the mode of delivery, but Learning Time does not. Learning Time includes all diverse learning experiences, formal and informal, where the learner can demonstrate they have achieved the learning outcomes. In Wales, 1 credit is assigned per 10 hours of Learning Time. This value does not vary according to individual circumstance. It is

neither necessary nor desirable to reduce all episodes of learning to single credit units. For example, higher education institutions commonly use 10 credits as a standard size for modules.

Credit is awarded for the achievement of learning outcomes that have been verified through reliable and valid assessment in line with current rules and regulations. This is done through the achievement of units.

The CQFW requires Recognized Bodies to develop sets of learning outcomes as 'units'. Higher Education Institutions often use the term 'module' synonymously with unit but module encompasses mode of delivery and referencing materials. A unit is a coherent combination of learning outcomes, plus assessment criteria that have been given a level and Credit Value. A unit must contain at least one learning outcome and at least one assessment criterion. The CQFW makes no determination of the maxima, though curriculum designers and Recognized Bodies must bear in mind the practicalities of delivery, assessment and quality assurance arrangements. Each unit or module of learning can only be assigned to one credit level. Units can be delivered and assessed independently, or brought together through rules of combination to create a rational program of study or qualification.

Prior Learning Assessment/Recognition of Prior Learning

The attempt to integrate VET and Higher Education and the recognition of what Europe referred to as "Recognition of Prior Learning" encompassing all non-institutional training and informal education has been an on-going topic of study and policy work since the 2010 Europe 2020 Strategy for Growth and Jobs and a strategic framework for the open coordination of education and training explicitly called for more progress in these area. Results have been mixed and the development of the Lumina Funded Empire State PLA with its Global Qualifications Framework and the development of a competency-based PLA will greatly enhance the development of the American Qualifications Framework. Among the leaders to study in this area internationally are the UK frameworks. For an example of their work see the toolkit:

http://scqf.org.uk/content/files/RPL_Toolkit_FINAL_-_May_2010.pdf– Scotland, <http://libserver.cedefop.europa.eu/vetelib/2011/77641.pdf>). This along with transfer of regular courses represents a major policy barrier subjectively based on a variety of factors, type of institution, and individual or group making the decision if or how much to accept prior learning. Agreement on specific competencies and units theoretically should make decisions more objective 3rd party evaluators require outcomes and assessments among other QA criteria. Time to credential already varies considerably. ACE and CAEL are two other American organizations looking to making their assessments more CBE.

Lessons Learned from International Qualifications Frameworks for the U.S.

The exploration of international frameworks yielded several key themes and trends that will inform the creation of a U.S. Credentials Framework.

1. **The distinction between a qualifications "framework" and a qualifications "system" is important.** The NQF is normally one component of the overall qualifications system. A qualifications 'system' is broader, including all activities that result in the recognition of learning, such as the means of developing and operationalizing policy on qualifications, along with institutional arrangements, quality assurance processes, assessment and

awarding processes, etc. The credentials system in the United States is made up of a myriad of agencies, educational institutions, community-based organizations, industry associations and providers that must work together and depend on one another for overall success. Within this interdependent system, the Credentials Framework is a translation tool and a key piece of the solution. There are other concurrent efforts taking place in the United States that are focused on making education work better for students and credentials more transparent in the labor market. The work involving rebalancing the credit hour, employability skills and degree transparency should also be considered part of the qualifications (credentialing) system in the United States. These projects share many of the same principles and goals, but address distinctive components of the system and should inform the work of the other initiatives in the portfolio. This collaboration and sharing will ensure common language and increased efficiency as the credentials structure develops.

2. **NQFs are mainly platforms for cooperation and dialogue** between national stakeholders, between users and providers of qualification and certification, their added value very much depends on the quality of this cooperation.
3. **The current structure of academic accreditation, vendor and 3rd party accreditation involves far too many players and is not transparent to provide the level of comparability and portability to provide the oversight and determination of levels.** This ties in with the issues around the 2 EU credit systems noted above and various efforts to reference each other or consolidate national coordinating bodies.
4. From a broader societal and sustainable perspective, **both employability and lifelong learning should be emphasized as interlinked objectives** in order to avoid a narrow labor market matching perspective.
5. The creation of the meta-framework must be an **intensive, collaborative, interactive, multi-phase endeavor** that includes all affected stakeholders.
6. **The language must be broad enough to be inclusive of the differences** between states, industries, occupations, education systems, etc. but be specific enough to successfully define levels, learning outcomes and performance measures. EQF language was also written in clear, plain language, avoided the use of 'jargon' and focused on positive phrasing.
7. **The meta-framework will be continuously *transforming*, in order to remain *transformative*** in this era of rapid change.
8. **Communication, education and market building are key in determining the impact** of any qualifications framework. Stakeholders must know about the tool, be familiar with the value it can offer, be aware of what it is and what it is not and learn how to use it.
9. **The framework's visual representation is a key component of usability and buy-in.** Most of the models utilize a wide variety of grid structures with very user friendly language to define levels and competencies, but the graphics, detailed instructions and work tools were very important.
10. **Qualifications Frameworks utilize competencies to delineate the ability and readiness to use knowledge, skills and personal and social competencies** in work or study situations and for occupational and personal as well as civic development.

11. **Qualifications Frameworks can be used in the development and improvement of curriculum** particularly at the modular level, development of assessments, certification and recognition of learning outcomes for both national and global sectors (e.g. Mechatronics, in particular a multi-skilled technician training in the automotive industry, is being developed into international certifications of students, instructors, and curriculum.)
12. **Qualifications Frameworks make equivalences and differences between credentials more transparent** for educational establishments, companies and employees and to use this as a vehicle for supporting comparability and portability (transfer).
13. **Qualifications Frameworks achieve reliability via quality assurance and development** and to promote the idea that qualifications processes should be based on learning outcomes (across the fields of education, vocational education, higher education and training).
14. **Terminology remains an issue.** There is a diverse debate over the different uses of terminology beyond terms such as “competence” that is not used as it is in Europe or the debate about “competencies” that was replaced in the DQP because it was regarded Although this is being addressed by the Lumina GWU/ANSI and one that that will need to be defined or referenced in the terminology used in this project and the GWU/ANSI. The QWU/ANSI project meeting in December 2013 currently is going to continue to use the terms “competency” and “competencies,” given discussions over the use of “competencies” versus “proficiencies” and confusion over competency based education. Competencies include all the related knowledge, skills, abilities, and attributes that form a person’s job. The DQP defines proficiency as a “label for a set of demonstrations of knowledge, understanding and skill that satisfy the levels of mastery sufficient to justify the award of an academic degree.” The *DQP* uses the term “proficiency” rather than “competency” because it addresses the degree as a whole and references the continuum of learning across increasingly higher degree levels. In contrast with the cumulative learning that results in “proficiency,” the term “competence,” as described by the DQP and replaces “competencies” in its earlier version using a narrow definition of describing competencies as “formative attainment goals within specific learning experiences along the path to degree-qualifying proficiencies.” This use of words relates to the general vigorous debate over the emerging role of competency-based education and needs to be addressed by the issue of measuring learning outcomes see Terminology issues below).

Why an American Credentials Framework?

Similar to the EU and Global Educational Reform, issues of transparency, comparability, portability and quality assurance are the major driving force for overcoming the worldwide economic downturn and high unemployment rates, particularly among youth and ensuring their competitiveness through having a skilled new workforce as well as incumbent workers. Increasing attainment of credentials of value has become a national consensus. U.S. college graduation rates continue to lag globally ranking 19th out of 28 countries studied by the OECD, which tracks education investment and performance of wealthier democracies. The lack of educational mobility has serious implications for individuals and society. Higher education levels are associated not just with higher earnings, but also with better health, more community engagement and more trust in governments, institutions and other people.

In addition to the U.S. interest in these factors, we also see an increased interest in Credentialing and Standards, particularly the growing importance of global industry such as automotive and energy. In particular, The U.S. has been hit by a series of “skill gaps” in key industries requiring major retooling of curriculum, delivery, and the student “pipeline.” Among the other key factors are:

1. **International Shift to Learning Outcomes as the performance measure for assessing learning** in place of input measures such as “seat time” (the current credit hour now under review for “rethinking” by the Carnegie Foundation for the Advancement of Teaching).
2. **Increased Demand for Competency-Based Credential and Direct Assessment.** The shift to outcomes measures of learning performance from input measures is reflected in the international development of qualification frameworks. In the U.S. there is growing interest in the use of competency-based credentials to complement this development. High-quality, employer-backed, competency-based credentials can provide more precise information about job requirements and workers’ proficiencies, particularly for the more technically skilled positions that make up an ever increasing share of the U.S. labor market. An overwhelming amount of certificates, certifications, licenses and other credentials is offered by a confusing array of industry and occupational groups, third-party validators, and educational providers and systems. No national framework exists for developing and endorsing these credentials. Too few businesses, educational institutions, workers and students—the major players in such a market—understand or make use of competency-based credentials.
3. In response to a growing number of institutions who have adopted **competency-based programs** or encouraged by the U.S. Department of Education to develop Direct Assessment Competency-Based Programs, the regional accrediting agencies such as the Southern Association of Schools and Colleges have developed policies that recognize the potential of innovative learning models and have developed creative programs that allow students the flexibility to learn at the pace that makes sense for them, both in career-technical and degree programs. Students progress in these programs by demonstrating their achievement of specific skills or knowledge. These programs, commonly called competency-based programs, fit into traditional learning models that measure progress in credit or clock hours, but increasing numbers do not. Direct assessment competency-based educational programs use the direct assessment of student learning in lieu of measuring student learning in credit or clock hours.
4. According to a recent Gallup/Lumina Foundation poll, **Americans want the education system to focus more on learning and demonstrated competencies, and less on “seat time”** as a proxy of learning:
 - a. 87 percent of respondents said they believe students should be able to receive college credit for knowledge and skills acquired outside of the classroom.
 - b. 75 percent indicated they would be more likely to enroll in a higher education program if they could be evaluated and receive credit for what they already know.
 - c. 75 percent don’t believe learning should be time based and agree that if a student demonstrates they have mastered class material in less than the traditional 16-week session, they should be able to get credit for the course without sitting through the entire 16 weeks.

http://www.luminafoundation.org/newsroom/news_releases/2013-02-05

5. **Increased accountability regarding program credentials** given growing student debt and placement and the insufficient quality assurance mechanisms for a large number of credentials (the lack of 3rd party or industry-recognized validation for large number of certifications and certificates)
6. **Critical need for increased navigation through the vast number and types of credentials** and options in “stacking” credentials and career pathways. While the widely varied US education and training and credentialing system provides multiple routes to educational and career advancement for people, particularly economically disadvantaged and minorities, it also results in too many dead ends for people as they try—and often fail—to navigate through this complex multi-layered system. Individuals entering the labor market don’t know what credentials have market value to get them where they want to go and how best to obtain needed credentials; People have trouble moving from noncredit occupational training, which makes up more than half of postsecondary enrollments, to credit-bearing programs and from short-term certificate programs that may help them gain a foothold in the labor market to longer-term degree programs that generally have a higher economic payoff.
7. **There is a diverse debate over the different uses of terminology** and one that that will need to be defined or referenced in the terminology used in this project and the GWU/ANSI effort. The QWU/ANSI project meeting in December 2013 currently is going to continue to use the terms “competency” and “competencies,” given discussions over the use of “competencies” versus “proficiencies” and confusion over competency based education. Competencies include all the related knowledge, skills, abilities, and attributes that form a person’s job.
8. **Strong employer engagement and industry recognized credentials.** Unlike other major economically developed countries where business and industry and the other social partners (e.g. Labor Unions) enjoy a strong relationship with education as part of their economic, societal and business structure, the U. S. does not. However, as our Business and Industry panels demonstrated, the need for ongoing pathways between work and education has accelerated as a result of several factors. Perkins funding legislation has had an effect somewhat on CTE, the TAACCT grants somewhat more recently but also industry has asked that the colleges incorporate industry recognized credentials in their “academic programs. The misalignment of many of these programs, especially compared to the non-credit and customized training to industry requirements, has become more glaring particularly with the lack of contextualized learning and more work based learning and experience which employers value. Although the U. S. Department of Labor’s Competency Models recognize that industry is responsible for setting standards, robust employer engagement in extending this to curriculum, competencies, assessments and credentials is not widely practiced.

Major issues to be addressed:

1. Management/Oversight of the Credentials Framework and its structure and policies. Our experience to date suggest a voluntary public-private partnership with a strong advisory board of stakeholders.
2. Mechanisms for issuing of Credit and Credentials: Utilize existing accrediting associations and organizations under a collective policy agreement reflecting comparability and trust.
3. An agreement on quality assurance and development that applies to all issuers.

4. Agreement on a common policy regarding e-portfolios, transcripts, Badges, etc.
5. Agreement on developmental of Web Portal for Credentials and Criteria and Management Issues (including inclusion and exclusion provisions)
6. Accreditation requirements for all issuers
7. Agreement on glossary and appropriate crosswalks
8. A comprehensive Data/Metrics Schema for Credentials
9. Policies for reviewing regularly the objectives and intended function of the Framework, the principles and logic applied when defining the Framework and how to adjust if required and the requirements to implementation (in terms of stakeholder involvement, transparency, quality assurance and peer review).