A Reform National Qualification Framework for Education in Jordan

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Abstract

In this study, the existing qualification system in Jordan was analysed and the gaps between academic qualifications and educational and vocational training systems were bridged by suggesting a national qualification framework for Jordan. The aim of this framework is to provide a structure for establishing national equivalence and comparability of qualifications, to ease international comparability of qualifications awarded in Jordan, to enable the understanding of the knowledge, skills, processes and competencies which graduates should achieve through clear level descriptors, and to facilitate the matching of skills demanded by industry and the supply of skilled workers.. A matrix was proposed to be a base for determining the knowledge, cognitive skills, competences and examples for each level.

Key words: Qualification Framework, cognitive skills, semi-skilled, Certificate, Degree

1. Introduction

A national qualification framework (NQF) is a set of principles and guidelines which provide a vision, a philosophical base and an organizational structure for construction of a qualifications system. European parliament defined national qualifications framework as an instrument for the classification of qualifications according to a set of criteria for specified levels of learning achieved, which aims at integrating and coordinating national qualifications subsystems and improving the transparency, access, progression and quality of qualifications in relation to the labour market and civil society [1]

In this work, the European Qualification Framework (EQF) was taken as a reference because the EQF applies to all types of education, training and qualifications, from school education to academic, professional and vocational. This approach shifts the focus from the traditional system which emphasizes learning inputs, such as the length of a learning experience, or type of institution to learning outcomes. It also encourages lifelong learning by promoting the validation of non-formal and informal learning [2].

The core of the EQF concerns eight reference levels describing what a learner knows, understands and is able to do (learning outcomes). Levels of national qualifications will be placed at one of the central reference levels, ranging from basic (Level 1) to advanced (Level 8) [3, 4]. This will enable a much easier comparison between national qualifications and should also mean that people do not have to repeat their learning if they move to another country.

The main types of Qualifications Framework can be classified into sectorial, national, and international. The scope and prescriptiveness of each type is shown in Table 1.

Table 1. The scope and prescriptiveness of each type of Qualifications Framework

	Sectorial	*National*	*International*
Scope	**Specific levels/ sectors/ types of qualifications**	**Comprehensive Tracked/ Linked/ Unified**	**Meta-frameworks**
Prescriptiveness	**Usually tighter**	**Varying from loose to tight**	**Usually looser**

The need for constructing a **Jordanian National Qualifications Framework** (**JNQF**) may act as a translation device to make national qualifications more readable across the world, promoting Jordanian workers' and learners' mobility between countries and facilitating their lifelong learning. In addition, Jordanian individuals and employers will be able to better understand and compare the qualifications levels of different countries and different education and training systems by taking JNQF as a reference.

2. Models of National Qualifications Framework

Many countries in the world found that it is of a great importance to have their own national qualification framework (NQF) to allow the greatest level of flexibility for people and post school education and training providers. Moreover, NQF facilitates regional and international recognition of qualification. Examples of these NQFs can be presented in the following subsections.

2.1. Scotland

The Scottish Credit and Qualifications Framework (SCQF) is the national credit transfer system for all levels of qualifications in Scotland. It incorporates the Scottish Qualifications Certificate, Higher National Certificate, Higher National Diploma, Scottish Vocational Qualification (SVQ) (equivalent to National Vocational Qualification (NVQ)) and all Degrees of Scottish Higher Education Institutions. It is managed by a partnership of the Scottish Qualifications Authority. The education and training providers in Scotland agreed to create a common framework for all qualifications, both current and historical. This led to the development of a 12-level framework with different courses, units, modules and clusters being placed at a specific level with a credit weighting [5]. The summary of SCQF is shown in Table 2.

Table 2. The 12 levels of The Scottish Credit and Qualifications Framework (SCQF)

SCQF Level	*Scottish Qualifications Authority*(SQA) National Units, Courses and Group Awards	Higher Education	Scottish Vocational Qualifications (SVQ)
12		Doctorates	
11		Masters	SVQ 5
10		Honours degree, Graduate diploma	
9		Ordinary degree, Graduate certificate	
8		HND, DipHE	SVQ 4
7	Advanced Higher	HNC, CertHE	
6	Higher		SVQ 3
5	National 5 Intermediate 2 Credit Standard Grade		SVQ 2
4	National 4 Intermediate 1 General Standard Grade		SVQ 1
3	National 3 Access 3 Foundation Standard Grade		SVQ 1
2	National 2 Access 2		
1	National 1 Access 1		

2.2. Ireland

The Irish NQF is designed for the development, recognition and award of qualifications based on standards of knowledge, skill and competence acquired by learners. The Framework consists of 10 levels, from basic learning to Doctoral awards. Throughout this prospectus, it can be seen the NQF level and Award Type to which a programme leads alongside other related information to help you understand and compare programmes of education and training. The NQF helps the learner to plan his education, training and career progression and helps him make informed choices about the qualifications he chooses and to recognize the progression routes that may be open to him upon successful completion [6]. The ‘fan diagram’ (Figure 1) below illustrates the Irish NQF

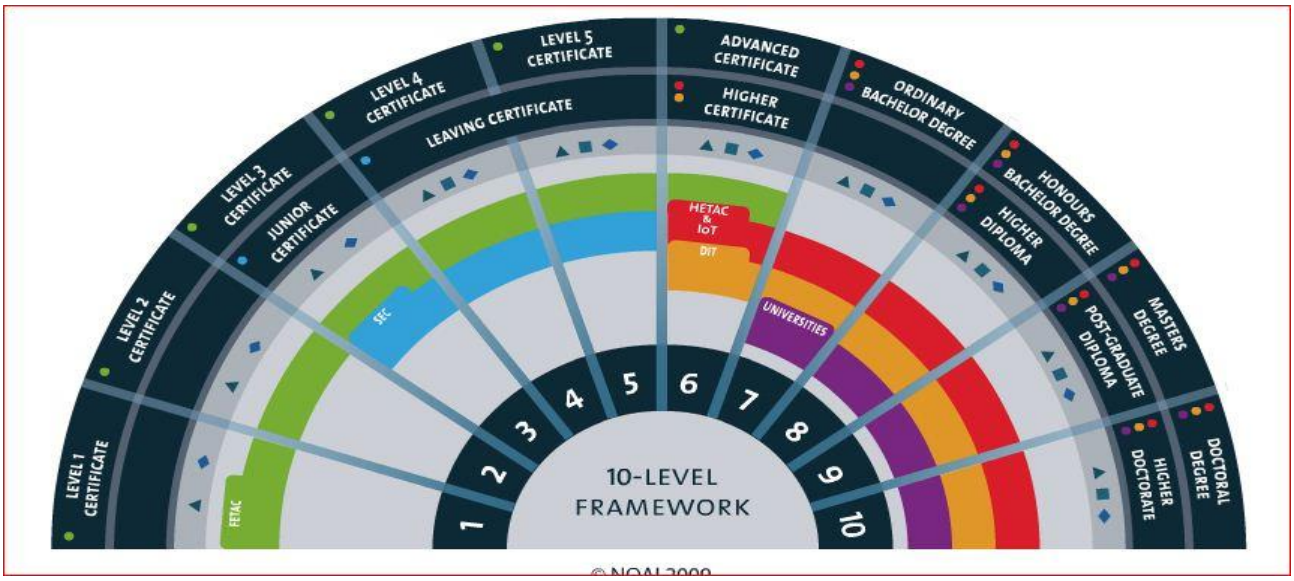

Figure 1. The 'fan diagram' represents the Irish NQF

2.3. Denmark

The Danish Qualifications Framework for Lifelong Learning is a comprehensive, systematic overview, divided by levels, of qualifications that can be acquired within the Danish education system – from primary and lower secondary to university level and within the area of adult and continuing education and training. The Qualifications Framework has eight levels. Degrees and certificates are placed at one of these eight levels on the basis of learning outcomes. The level descriptors express the learning outcomes in terms of knowledge, skills and competence [7]. The structure of Danish Qualification framework is shown in Table 3 below.

Table 3. The structure of Danish Qualification framework

Certificates and degrees			Certificates for supplementary qualifications		
1	Primary and lower secondary school certificate (9th class)		1	Preparatory adult education certificates	
2	Primary and lower secondary school certificate (10th class)		2	General Adult Education certificates	Basic VET courses and single subject VET certificates Adult vocational training certificates
3		VET certificates Other vocational certificates	3		
4	General upper secondary certificates		4	Higher preparatory single subject certificates Supplementary upper secondary certificates	
5	Academy Profession degrees and VVU Degrees		5		
6	Bachelor and Diploma Degrees		6		
7	Master's Degree (Candidatus) and Master Degrees		7		
8	PhD Degree		8		

2.4. Kingdom of Saudi Arabia (KSA) Qualification Framework

The framework, in KSA, describes expected characteristics of graduates and learning outcomes in broad areas at each level. It is built on in program and course specifications that include: teaching strategies, program evaluation mechanisms and student assessment procedures for all of the domains of learning. The framework is being broadened to show the relationships between technical training and higher education and clarify the special requirements of each of those sectors of the system levels numbered and linked to qualification titles used to describe the increasing intellectual demand and complexity of learning expected as student progress to higher academic awards.

On the other hand, the framework for higher education assumes that students entering post secondary education will have completed secondary education, with any necessary pre-requisites for study in particular fields. If additional preparatory work is required it is not part of higher education and credits that might be granted for such studies does not count towards higher education award requirements [8]. Table 4 shows the levels of Saudi Qualification Framework for higher and technical education in addition to vocational training.

2.5. Oman Qualification Framework

Oman developed its own national qualification framework. It consists of six levels (Table 5). The framework utilizes a credit point system (with the equivalent in credit hours shown for explanatory purposes). One credit point represents the learning outcomes expected to be achieved by an average learner at the level concerned in 10 hours of work. 120 has been selected as the number to be used for the equivalent of one year's full time academic work. Widely used in the UK and US systems, this equivalence (120 credit points = one year full time academic work) is easily divisible into semesters or quarters or individual subjects [9]. The emphasis on credit points rather than credit hours puts the focus appropriately on what has been learned (the outcome) rather than how long it takes (the input). Studies at each level should lead to achievement of the knowledge and skills required for that level, and also provide the foundation for progression to the next level.

Table 4. Levels of Saudi Qualification Framework for higher and technical education in addition to vocational training.

	Levels	***Secondary***	***Technical and vocational Training***	***Higher Education***
Post Secondary Levels	9			Doctor
	8			Master
	7			Higher Diploma
	6		Bachelor of Technology Education	Bachelor
	5		Technical Diploma	Diploma
	4		Vocational Certificate 3	Associate Diploma
Secondary Level	3	Year 12	Vocational Certificate 2	
	2	Year 11	Vocational Certificate 1	
	1	Year 10		

Table 5. Oman Qualification Framework

Level	***Credit Point***	***Credit Hours***	***Normal Minimum Time (Year)***	***Award Titlte***
1	120	30	1	Certifacate
2	240	60	2	Diploma (includes Associate Degree)
3	360	90	3	Advanced Diploma (includes Scottish Degree)
4	480	120	4	Bachelors Degree
	120	30	1 year at level 4	Graduate Diploma
5	150 -180	30-45	1-2years after Bachelor's	Master Degree
	120	30	1 year at level 5	Post Graduate Diploma
6	300	75	2-4 years after Master's	Doctorate

3. Analysis of the current status of educational system in Jordan.

After a huge and complex survey, Educational and vocational training systems in Jordan can be classified into the following:

1. University Education
   The university designation is supported by evidence of rigorous standards. One of the key defining characteristics is substantial engagement in the conduct of research. Credible research activity is important also for the external reputation of the system of Higher Education as a whole, since Universities are at the top of the system and the international standing of Universities is heavily dependent on the quality of their research. A University must have at least three major fields of study (Bachelor, Master and Doctorate degrees) and a significant research component.
2. University College and/or Community College Education
   It is expected that this education shares some of the key characteristics of a University. These characteristics include research activity relevant to local and national needs; appropriate research facilities; and, programmes up to and including the Master's degree in at least two broad fields of study.
3. High School Certificate not leading to university entrance
4. High School Certificate leading to university entrance (Tawjihi)
5. Technical education (Examples: industrial, hotel and tourism, agricultural, house economy, and vocational educations)
6. Compulsory Basic Education
7. Pre-school Education (Examples: Nursery or Kinder Gardens)
8. Vocational training programmes

It is worth mentioning that vocational training prepares labor, who are classified into five levels. These are: semi-skilled, skilled, craftsman, technician, and specialist).

The studying of the existing system leads to build a relationship among educational and vocational training systems as shown in figure 2 below. The column in the wright side of the figure shows the vocational training system, while the remained part shows the education system. Formal learning is always organized and structured, and has learning objectives. From the learner's standpoint, it is always intentional: i.e. the learner's explicit objective is to gain knowledge, skills and/or competences. Informal learning is never organized, has no set objective in terms of learning outcomes and is never intentional from the learner's standpoint. Often it is referred to as learning by experience or just as experience. Mid-way between the first two is the non-formal learning. The advantage of the intermediate concept lies in the fact that such learning may occur at the initiative of the individual but also happens as a by-product of more organised activities, whether or not the activities themselves have learning objectives [10].

The award types of the educational system in Jordan consists of:

1. Degrees such as Bachelor degree, Master degree, and PhD.
2. Certificates such as Compulsory Basic Education, Secondary Education (High School Certificate not leading to university entrance, High School Certificate leading to university entrance (Tawjihi)), Intermediate diploma, and Vocational Training.

Regulatory National Qualifications Bodies in Jordan are: Quality Assurance Body for General Education, Quality Assurance Body for TVET, and Quality Assurance Body for Higher Education.

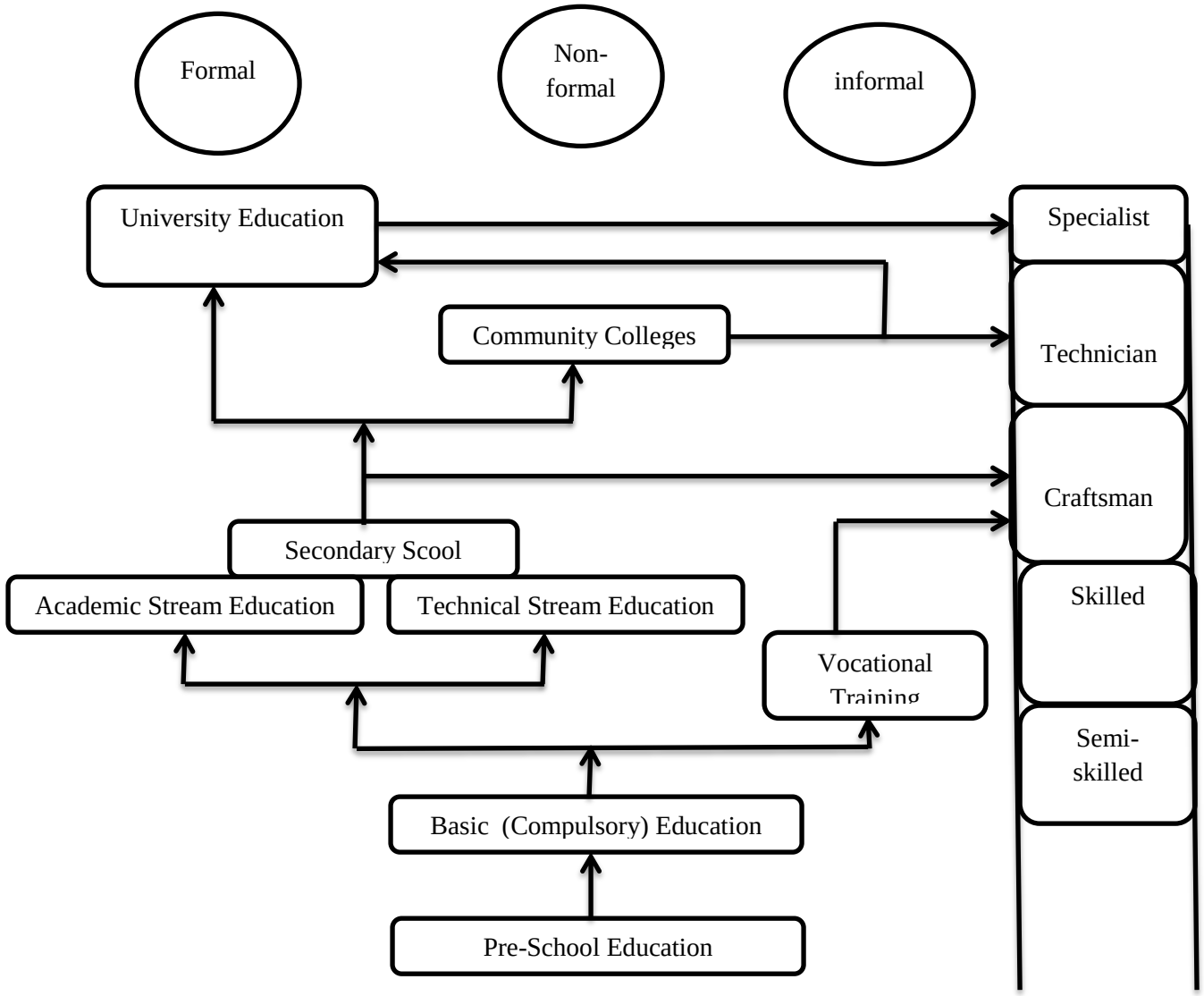

Figure 2. The relationship among educational and vocational training systems in Jordan resulted from the analysis

The main features of the educational system and the potential implications of the development in Jordan are:

1. Existing qualification system is fragmented/ lacks coherence
2. Poor articulation between qualifications offered and skills needed
3. Poor quality and low credibility of existing qualifications
4. Low levels of participation in education and achievement in particular subsections of the population
5. Out-of-date content;
6. Qualifications not being developed to meet emerging social and economic needs;
7. Lack of involvement of social partners, particularly in the development of standards;
8. Lack of flexibility in delivery systems;
9. Inconsistent application of standards;
10. Poor linkages between academic qualifications and educational and vocational training

4. The main approach for developing JNQF

The need for constructing JNQF can be justified by the following:

1. To provide a structure for establishing national equivalence and comparability of qualifications;
2. To facilitate international comparability of qualifications awarded in Jordan;

3. To facilitate the understanding of the knowledge, skills, processes and competencies graduates have achieved through clear level descriptors;
4. To facilitate the matching of skills demanded by industry and the supply of skilled workers;
5. To provide opportunities for career development and clear and flexible pathways;
6. To facilitate the recognition of prior learning, previously acquired skills and current competencies;
7. To provide opportunities to facilitate the pursuit of lifelong learning;
8. To facilitate the development of a register of quality assured qualifications.

One type of qualifications framework approaches is called a *descriptive framework* which describes the existing system in terms of hierarchies, relationships and standards that already exist. Another type is called a *reforming framework* which takes the existing system as the starting point but seeks to influence the development of the system, especially in terms of increasing access, quality and relevance. A third type is called *transformational framework* which takes as its starting point a proposed future system and defines the qualifications it would like to see in a transformed system, without explicit reference to existing provision. In this work reforming framework approach was adopted**.** The underlying philosophy for this approach can be summarized as follows:

1. Higher education is promoted by government and private sectors as a means to produce more useful knowledge and skills and develop the economy. Accordingly NQFs are seen as a way of raising the status of Higher education qualifications
2. Neo-liberalism emphasis is on education for human capital and human resource development- associated with enhanced employment opportunities, economic improvement and international competitiveness.
3. Accountability and control: government embrace the idea of an NQF because it provides mechanisms for accountability and control of providers. NQFs provides governments with an instrument for making educational institutions more accountable and quantitative measures for comparing performance.
4. Outcomes-based learning: Qualifications frameworks are underpinned by the belief that learning can be demonstrated by observable behaviours that can be explicitly stated.
5. Lifelong learning emphasis the idea that life is a learning journey from cradle to grave , and that learning takes place in a wide variety of contexts including formal, informal and non-formal
6. Globalisation: the need to facilitate award gainers and labour movement and the commodification of education
7. New managerialism

The range for qualification framework development covers the following requirements:

1. The program leading to qualification from curriculum design to relevance of education
2. Qualifications from levels of learning to qualification standards
3. Providers of programmes leading to qualification from internal quality management to quality of delivery of programmes
4. Graduates of qualifications (assessment of learners)from credit arrangements to recognition of learning (formal, informal and non-formal)
5. Quality of awarding bodies

Based on the discussion above, a proposed matrix to be a base for JNQF is presented in Table 6. It shows the levels in relation to the certificates, degrees, and vocational training levels descriptors.

Based on the built matrix above, JNQF can be presented as shown in Figure 3. Below. It consists of 9 levels in addition to pre-school level. Each of the 9 levels should be based on nationally agreed standards of knowledge (as suggested in this model), skills, and competence. i.e. what an individual is expected to know, understand and be able to do following successful completion of a process of learning level. Table 7 below shows the knowledge, cognitive skills, competences and examples for each level.

Table 6. JNQF proposed matrix

Level	Description	Academic and technical Education required	Vocational Training Level
L9	Post Graduate	PhD and Doctorate degrees	
L8		MPhil and Master Degrees	
L7		Bachelor Degree, Higher (postgraduate) & Professional Diplomas	Specialist
L6		3-year Diploma after secondary education	Technician
L5		2-year Diploma after secondary education	
L4	Secondary	Leaving High school (12^{th} grade) with a certificate leading to University Education	Craftsman
L3		Leaving High school (12^{th} grade) with a certificate not leading to University Education	Skilled
L2	Basic	Till 10^{th} Grade	Semi-skilled
L1		Till 6^{th} grade	
		Pe-school	

The awarding body is a national body that has the legal power to make an award in order to recognize learning. This section identifies the awarding bodies whose qualifications are in the JNFQ. In Jordan, the awarding bodies are Universities, Community Colleges, Ministry of Higher Education, Vocational Training Centre at the ministry of labour.

A key element of the JNFQ is to improve access (entry) to education and training, transfer within and between education and training and progression within and between education and training.

The proposed model indicates also the quality assurance bodies responsible for the quality assurance functions of the award bodies. Higher Education Accreditation Council (HEAC) is responsible for higher education, Ministry of Education Council (MOEC) responsible for academic and technical education, and Technical Vocational Education and Training Accreditation Council (TVETAC) responsible for vocational training quality assurance

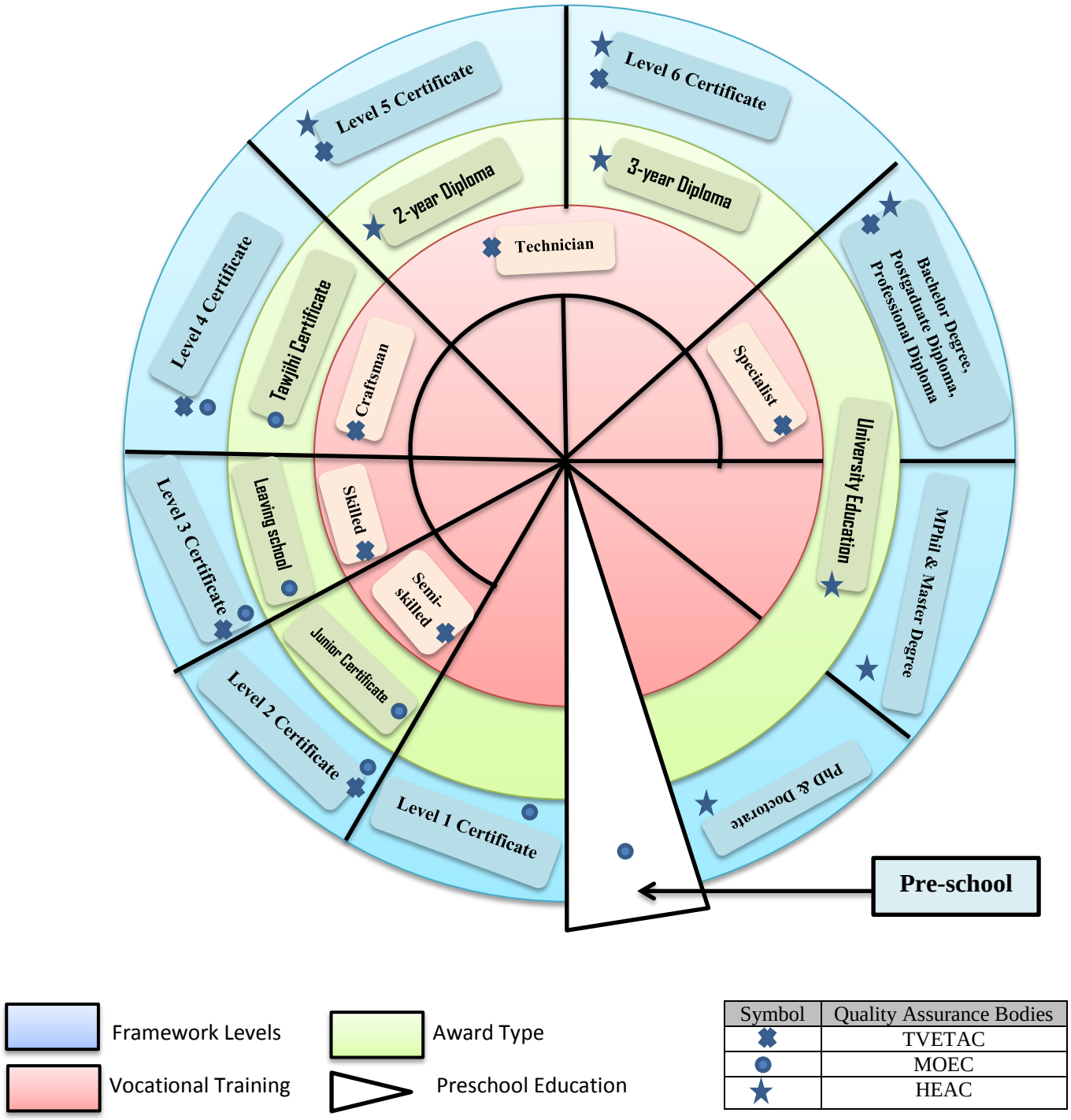

Figure 3. The Proposed Model for JNQF

Table 7. Descriptors defining JNQF

Level	Knowledge	Cognitive skill	Competence	Example
Pre-school	Basic concept knowledge	Basic literacy and numeracy		4-6 years (age)
Level1	Basic concept knowledge	Basic literacy and numeracy		7-12 years (age)
Level 2	Basic factual knowledge of a field of work or study	carry out tasks and to solve routine problems using simple rules and tools	work or study under supervision	12-16 years (age)
Level 3	Knowledge of facts, principles, processes and general concepts, in a field of work or study	accomplish tasks and solve problems by selecting and applying basic methods.	take responsibility for completion of tasks in work or study under supervision	16-18 years (age)
Level 4	Knowledge of facts, principles, processes and general concepts, in a field of work or study	accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	take responsibility for completion of tasks in work or study with some autonomy	16-18 years (age)
Level 5	Factual and theoretical knowledge in broad contexts within a field of work or study	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others	2 years study - community college (19-20 age)
Level 6	Comprehensive, specialized knowledge within a field of work or study and an awareness of the boundaries of that knowledge	develop creative solutions to abstract problems	exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others	2 years study - community college (19-21 age)
Level 7	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialized field of work or study	manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups	University Education (Bachelor Degree) (19-22 age) postgraduate Diploma Professional Diploma
Level 8	• Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research • Critical awareness of knowledge issues in a field and at the interface between different fields	specialized problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams	University Education (MPhil, and Master Degrees) (above 22 years old)
Level 9	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields	the most advanced and specialized skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice	demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research	PhD Degree and Doctorate

6. Recommendations

Building JNQF is very important step of reforming academic and technical education and vocational training in Jordan. The main recommendations can be summarized in the following points:

1. The outcomes of the educational and training programs should be paid a high attention.
2. The outcomes of the programs should be comparable to those set by other international organizations.
3. The outcomes of the programs should be linked to the labor market needs.
4. This JNQF helps in having a smooth transfer among educational systems in Jordan
5. This JNQF helps in comparing between the academic and technical educational system and vocational training system.

7. References

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