



# **CROATIAN QUALIFICATIONS FRAMEWORK**

## **Introduction to Qualifications**

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# Foreword

„Croatian Qualifications Framework – Introduction to Qualifications“ is a document that lays down the theoretical basis for the development of the Croatian Qualifications Framework (CROQF), providing the fundamental information, guidelines and explanations that are a prerequisite for the understanding of the key concept – qualification.

The social justification for the development of the CROQF was presented in the document entitled Baseline of the Croatian Qualifications Framework, adopted by the Croatian Government in July 2007 and followed by the establishment of the Committee for the Development of the Croatian Qualifications Framework, a governmental body comprised of the representatives of all stakeholders and social partners.

After adopting the Plan of Activities for the Development of the CROQF for the 2008 – 2012 Period, the next step was the establishment of the Operational Team in Support to the Committee for the Development of the CROQF in April 2008, which was appointed by the Ministry of Science, Education and Sports. The Team consists of representatives of state and public educational institutions and business associations.

The Operational Team has held a number of workshops and compiled drafts of documents that constitute a precondition for the development of the Croatian Qualifications Framework. Simultaneously with these activities, cooperation has been forged with EU bodies, international and domestic events, conferences, and workshops have been attended, current achievements presented, debates led and conclusions reached. In this way, the Plan of Activities has been successfully realised, resulting in the production of a number of fundamental documents. The most important documents include the Glossary of the Croatian Qualifications Framework and Working Groups for the Development of the Qualification Standard, which the Committee adopted as concepts in December 2008 and as final documents in June 2009. The Glossary of CROQF introduces and explains a number of terms, presents level indicators (descriptors), lists the key elements and properties of qualifications and outlines further steps in the development of the CROQF. The document Working Groups for the Development of the Qualification Standard provides the list and the structure of working groups, the preconditions for their formation, their tasks and outcomes, the competences of their members, and their appointment.

This book is the first in a series of books on the Croatian Qualifications Framework, aiming to bring together in a comprehensive whole the experience gained and the results achieved. The book presents the key terms, actions, plans and activities to the wider professional public and is designed to guide, support and assist the Operational Team and Working Groups in the first phase of the implementation of the

CROQF which will draw a clear and, most importantly, accurate picture of the existing qualifications system in Croatia and reference the CROQF to the European Qualifications Framework (EQF). The EQF acts as a translation device to make national qualifications more readable, acceptable and reliable across Europe. The common purpose of both the CROQF and the EQF is to facilitate lifelong learning and citizen mobility.

The CROQF constitutes the basis for understanding the existing qualifications and their interrelations, and for the development of new qualification standards. It is important to underline that the comprehensive systematisation of qualifications is to include all the qualifications that an individual may have acquired, regardless of the way in which he or she has acquired them. Thus, a stronger link is created between the labour market, the formal education system, and the validation of non-formal and informal learning.

The CROQF uses a new approach to the planning and programming of the process of education, based on Learning Outcomes that use Descriptors to identify the Level of every qualification. Learning Outcomes in the CROQF are expressed and validated as knowledge and skills and the associated autonomy and responsibility. Four basic qualification properties are also introduced: reference level, volume, profile and quality as the measure of its reliability.

The book sets out guidelines for systematising existing qualifications, recognising and responding to the needs of society and individuals, and for developing and introducing new qualifications as well as the necessary changes in the legislation, and all related activities. At the same time it provides for the acquisition of the competences necessary for participation in the activities of the Working Groups for the Development of the Qualification Standard. The book is intended for everyone who is involved in qualifications, including the system of education, the business sector, state and public institutions, society as a whole, and each and every individual.

Prof. Slobodan Uzelac, Ph.D.

Deputy Prime Minister of the Government of the Republic of Croatia  
Chairman of the Committee for the Development  
of the Croatian Qualifications Framework

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This book has been produced as a result of the immediate effort on the part of the authors and editors, and with the help of many individuals, groups and institutions.

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The Authors





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# 1. Introduction

The Croatian Qualifications Framework (CROQF) is an important prerequisite for the regulation of the Croatian system of lifelong learning, which is the cornerstone of a knowledge-based society and social inclusion. The CROQF is based on the Croatian educational tradition, the current conditions and the level of development of society, the needs of the economy, individual and society as a whole. It also incorporates the provisions of the European Qualifications Framework (EQF), EU guidelines, and international regulations, in keeping with the foreign policy of the Republic of Croatia. The construction of a competitive European (and thus, Croatian) economic area requires the mobility of competences (and consequently citizen mobility), their recognition and use to the benefit of employees, employers and the entire community. The CROQF is an instrument that will, if effectively implemented, facilitate the employability and personal development of individuals, thus building social cohesion, which is particularly important in societies where economic and technological change, alongside an ageing population, have imposed lifelong learning as an inevitable part of educational and economic policies.

The aim of the Croatian Qualifications Framework is to link together the learning outcomes achieved in all educational institutions and enable their referencing within Croatia as well as in the context of international mobility. The CROQF sets clear quality criteria for competences that a learner can expect to possess after completing education for a qualification of a certain reference level and volume. The CROQF is a unified system that allows for learning outcomes to be measured and compared. Its basic structure is simple and contains an integral and minimal number of basic elements. The significance of the CROQF is reflected in high quality links between the needs of the labour market and the implementation of school and educational programs, and in validation of all learning outcomes.

This document provides the theoretical basis for the implementation of the Croatian Qualifications Framework. For simplicity of use, it has been organized in ten chapters.

Chapter Two sets out basic concepts and terminology, short explanations, illustrations, examples and questions and answers. The terms have been organized by topics for deeper understanding.

Chapters Three and Four outline the development of the Croatian Qualifications Framework from its beginnings and give an overview of other related activities.

Chapter Five has been designed to allow for a comprehensive understanding of the key elements of the Croatian Qualifications Framework and their basic properties, featuring elaborate explanations, illustrations, examples, and questions and answers. There is also a list of questions for further discussion and reflection.

Chapter Six describes the qualification standards, and Chapter Seven gives a detailed list of procedures for developing the qualification standards.

The book may be used in its entirety or partially, starting with any one chapter and in any order. However, in case a question arises, the answers should be looked for in the chapter that deals with that topic or by combining several chapters. The questions and answers and exercises have not been designed only for partial self-evaluation, but also for the revision of and expansion on the acquired competences.

The book may also be used by anyone interested in gaining new qualifications, either those who will formally acquire such qualifications through educational institutions, whether through formal learning or through the validation of non-formal and informal learning, or those who need such competences and qualifications to meet economic needs, create policies or development strategies. Here they can find a detailed explanation of the role of qualifications and an acknowledgement of the interests of individuals, groups, institutions and society. Many turbulent social events would be solved and mutual understanding and agreement reached more quickly with the help of the competences that can be found in this book.

The book is equally applicable in other countries.

## 2. Basic Concepts

This chapter introduces and explains the basic concepts used in the Croatian Qualifications Framework as well as in the qualifications frameworks of other countries. The concepts have been organised by topics for wider and deeper understanding. For each concept there is a corresponding term and a short, yet complete, description or definition. They are then further explained through select examples, illustrations, and questions and answers.

### 2.1. Qualifications Framework and Qualifications System

**National Qualifications System – NQS** refers to all the procedures and instruments leading to the recognition of learning outcomes in a country.

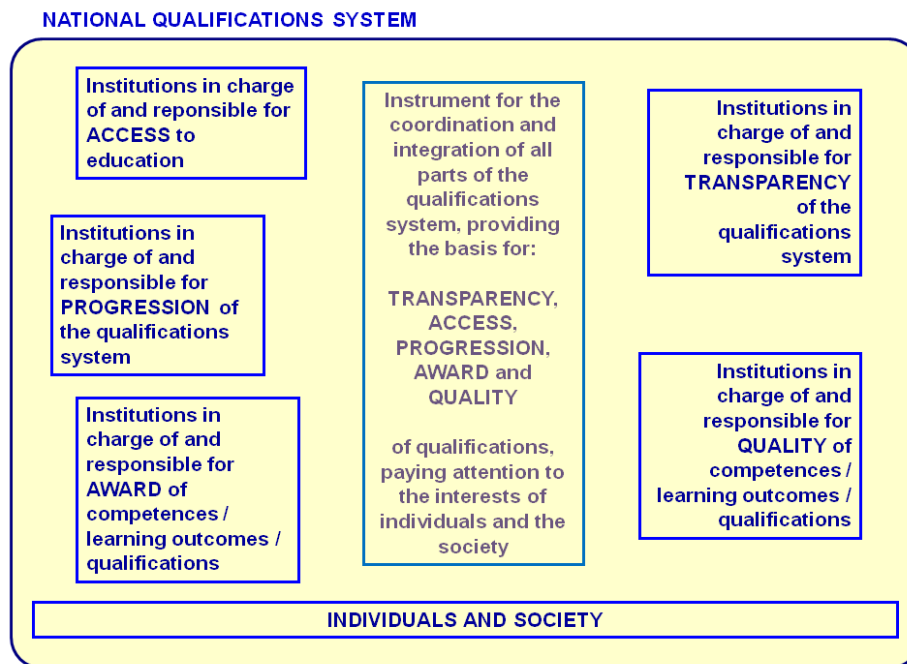
**Example:** Croatian Qualifications System – CROQS, as the qualifications system in the Republic of Croatia.

The CROQS is concerned with the transparency of the system, access, progression, acquisition of learning outcomes and their validation, and award of qualifications within institutional quality assurance procedures, all in accordance with the Croatian Qualifications Framework.

In order to organise a national qualifications system optimally, the starting points are the aims and outcomes that need to be realized, and all the activities and tasks to be implemented for their successful realisation, including all the activities related to ensuring the reliability and validity of all parts of the qualifications system. Within a qualifications system, institutions need to be established depending on the justifiability of introducing certain procedures and instruments, and responsibility needs to be assumed for successful implementation of the agreed activities and achieving the agreed outcomes. These institutions thus become a living element within the national qualifications system, and they serve society exactly as intended. If the line of autonomy and responsibility of such institutions is not clear (based on the individual's knowledge and skills) in relation to all resources, activities and outcomes, then their role in society is also unclear and they cease to be a justified part of the qualifications system. The CROQS also encompasses procedures leading to the validation of learning outcomes acquired through non-formal and informal learning.

For example, the Agency for Science and Higher Education constitutes an element of the Croatian Qualifications System in its capacity of the body that has assumed responsibility for quality assurance and enhancement in the field of science and higher education. Furthermore, the Agency has assumed responsibility for successful implementation and achieving results in other activities related to science and higher education, such as ensuring equal access to the higher

education system and recognition of foreign higher education qualifications for the purposes of employment in Croatia.



**Figure 2.1:** National Qualifications System.

**European Qualifications Framework – EQF** is an instrument that introduces qualification reference levels, designed to serve as a device for the recognition and readability of qualifications across national qualifications frameworks.

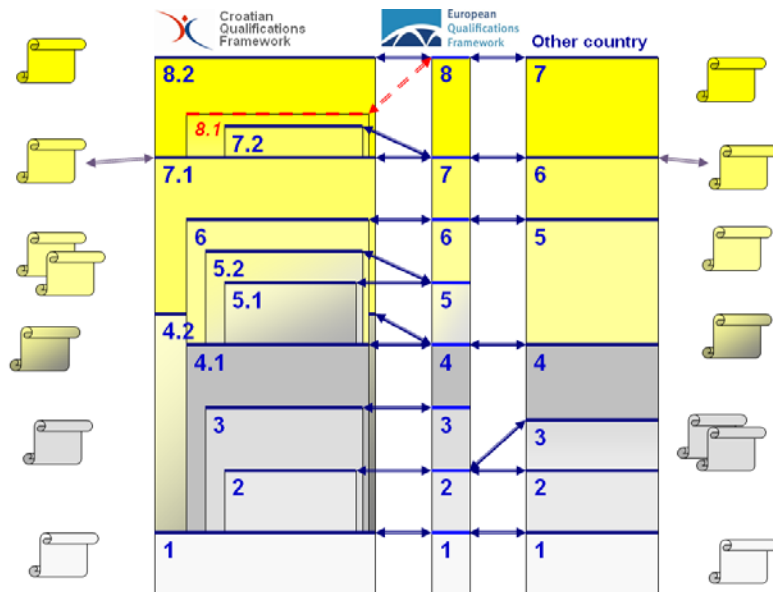
The EQF offers guidelines for the development of various qualifications systems and qualifications frameworks in Europe, with the goal of facilitating professional mobility and lifelong learning. The EQF is often described as the framework of the frameworks, and has been conveniently dubbed the “Meta-framework”. It allows for the mutual readability and comparability of all levels of qualifications systems (implicitly introducing reference levels) or national qualifications frameworks (explicitly defining and describing reference levels).

The EQF is not a framework regulating specific qualifications or specific qualifications systems.

**Bologna Process** is an instrument for establishing and harmonising qualifications acquired in the system of higher education in European countries, laying the foundation for transparency, access, progression, award and quality of qualifications, and it concerns only the formal education.

The overarching aim of the Bologna Process is to create a European Higher Education Area (EHEA) based on international cooperation and academic exchange

that is attractive to European students and staff as well as to students and staff from other parts of the world. The EQF and the Bologna Process overlap in stimulating transparency, partially in quality assurance, in transparency of presentation of qualifications' level of complexity and in boosting employment. However, there are some fundamental differences between the two. The Bologna Process harmonises different countries' systems of higher education and the EQF does not necessarily strive for harmonization, but it rather stops at linking and facilitating mutual readability of acquired qualifications among different countries. The Bologna Process creates easily readable and comparable degrees organised in a three-cycle structure (e.g. bachelor, master, doctorate), leaving the room for possible introduction of a short-cycle. The end points of the three cycles correspond to the 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> level of the EQF, and the short-cycle to the 5<sup>th</sup> level.



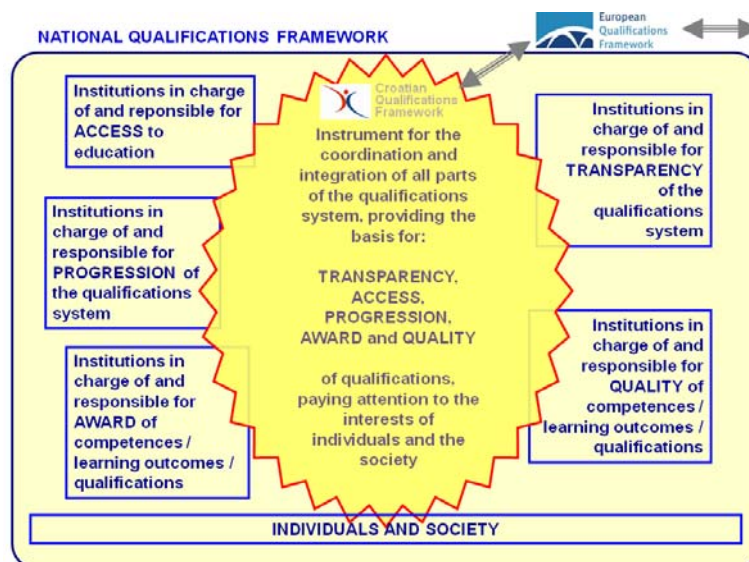
**Figure 2.2:** The EQF as an instrument for the readability of qualification reference levels in different countries. Here given is the example of Croatia and the qualification reference levels in the CROQF.

The EQF provides more general level indicators as compared to the Bologna Process (which is more oriented towards the academic status). This is a natural result of the EQF's ambition to encompass all educational sub-systems and all forms of competence acquisition, rather than only formal learning within the higher education system, which is the case with the Bologna Process. Despite some differences in their respective level indicators, the 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> complexity levels are equivalent in the EQF and the Bologna Process.

**National Qualifications Framework – NQF** is an instrument for the classification of qualifications acquired in a certain country, providing the basis for transparency, access, progression, award and quality of qualifications.

Example: the Croatian Qualifications Framework – CROQF.

A national qualifications framework (the Croatian Qualifications Framework, for example) coordinates and integrates all parts of the National Qualifications System, paying attention to the needs of individuals and society, including the needs and tasks of the economy. A national qualifications framework introduces a set of criteria, creating the basis for acceptable transparency, access, progression (in terms of developing competences), award and reliability of the entire qualifications system.



**Figure 2.3:** The CROQF as an instrument for the classification of qualifications in the Republic of Croatia.

## 2.2. Competences, Learning Outcomes, Qualification

### 2.2.1. Competences

**Knowledge** denotes a set of acquired and related pieces of information. In the CROQF, knowledge refers to factual and theoretical knowledge.

**Skills** denote a set of knowledge applications and the use of know-how in completing tasks and solving problems. In the CROQF, skills refer to cognitive (logical and creative thinking), practical (manual dexterity and the use of methods, instruments, tools and materials) and social (establishing and developing interpersonal relationships) skills.

**Autonomy and Responsibility (Competence)** denote the achieved employment of specific knowledge and skills, against given standards.

**Competences** denote a set of knowledge and skills, and the associated autonomy and responsibility.



There are several different ways of depicting all the competences that a person has acquired. In almost all countries, competences are depicted as knowledge, the application of that knowledge, and their achieved employment. The achieved employment refers to the conditions in which the knowledge and skills are employed, including spatial, temporal and other conditions.

Analyzing how competences are depicted by many different countries, the group that worked on the development of the European Qualifications Framework suggested that all competences be depicted as: *knowledge, skills, and competence*, to simplify their description, their level of complexity, and their later recognition.

A similar depiction was adopted in the CROQF: *knowledge and skills* and the associated *autonomy and responsibility*, which may be considered to be an optimal, understandable and measurable structure.

It is worth noting here that the term “competences” in common use refers to various concepts. Likewise, various terms are used to refer to the totality of that which is acquired through learning, and here it is the term “competences”. This can create some confusion. On the other hand, the term “competences” has in recent times been used in many documents, and this is why we have introduced it here carefully.

Competences refer to a complete set of everything that a person can acquire through learning. This set is in other places erroneously called “knowledge” (such examples of misuse would be: “(S)he knows how to drive a car. (S)he knows mathematics.”). Similarly, the term “ability” is sometimes used to denote such a set (for example, “She is able to drive a car. She is able to do mathematics.”).

On the other hand, the term “competence(s)” is used to denote competitiveness and the demand for what a person has acquired through learning. Some groups of people would thus say: “This person doesn’t have any competence(s) in Croatia”, even though this person has just been awarded the qualification of a master in space electronics. In this case, we would suggest the use of a more adequate term “competitiveness”, which can denote the demand for a specific qualification in a certain place and at a certain time.

**Factual knowledge** denotes a set of acquired specific pieces of information.

**Theoretical knowledge** denotes a set of acquired links among specific pieces of information.

Knowledge refers to factual and theoretical knowledge, i.e. acquired specific pieces of information and their linking together. The acquired pieces of information may include terms, their definitions and other forms of factual knowledge, that in and by themselves do not open up an unequivocal possibility of creating new information based on a limited number of existing pieces of information. Linking together distinct pieces of information may refer to various theories, models, and other theoretical forms of knowledge that open up the possibility of unequivocal creation of new useful distinct pieces of information.

**Cognitive skills** denote the use of acquired logical and creative thinking.

**Practical skills** denote acquired manual dexterity and the use of previously known methods, instruments, tools, and materials.

**Social skills** denote a set of acquired skills conducive to establishing and developing interpersonal relationships.

Skills are categorized as cognitive (logical and creative thinking), practical (manual dexterity and the use of previously known methods, instruments, tools, and materials), and social (establishing and developing interpersonal relationships). Skills involve everything that facilitates adequate application of knowledge (factual and theoretical), regardless of whether this application refers to the speed and quantity of information processing, decision-making or physical reaction, or to the behaviours and relationships with others within different social groups, or a combination of different skills.

When we talk about interpersonal relationships, we refer to the relationship with oneself and with other individuals, groups, nations and all of mankind. The sub-structure of skills (and knowledge) indicates that all competences of a certain specific qualification do not necessarily have the same level of complexity.

**Autonomy** denotes the right to one's personal management, and it constitutes the basis for determining one's responsibility.

**Responsibility** denotes the commitment to carry out undertaken tasks, and it is in line with the autonomy of execution and management.

**Key Competences for Lifelong Learning** denote a set of competences of an adequate reference level that are necessary for one's inclusion in the life of the community, and that form the basis for the acquisition of competences during one's lifetime to meet any personal, social and professional needs.

Key Competences for Lifelong Learning are implicitly incorporated in all qualifications and thus make an extremely important element of the CROQF, which is further elaborated through the development of the National Curriculum and other related activities. The EQF proposes dividing key competences in 8 groups: communication in the mother tongue; communication in foreign languages; mathematical competence and basic competences in science and technology; digital competence; learning to learn; social and civic competences; sense of initiative and entrepreneurship; and cultural awareness and expression. Here presented are only their profiles, and not their other properties, which we will learn more about further on.

### 2.2.2. Learning Outcomes

**Learning Outcomes** means knowledge and skills and the associated autonomy and responsibility which a person has acquired through learning and which the person proves after the learning process is completed.

**Unit of Learning Outcomes** denotes the minimum complete set of related learning outcomes.

**Module of Learning Outcomes** denotes one or more units of learning outcomes with a predetermined and aligned volume.

*Learning outcomes* denote all that which is acquired through learning. As it was explained above, this means competences, depicted as knowledge and skills, and the associated autonomy and responsibility. Validated and positively assessed knowledge and skills (as well as the associated autonomy and responsibility) are called learning outcomes. The description above emphasizes that learning outcomes belong to a specific person and that it has been (in a socially accepted way) proven (validated, assessed) that the person possesses them (in the form of an exam, for example).

The volume of a Module of Learning Outcomes is equal to the total volume of all learning outcomes that belong to it, harmonized with the volume of all other modules. In practice this means that the value of the volume of every module is the multiplied value of some pre-set value (for example, if the pre-set value is 5 ECTS, a module can have the value of 5, 10, 15 etc. ECTS).

A Unit of Learning Outcomes and a Module of Learning Outcomes are expressed as, for example, a school course.

### 2.2.3. Qualification

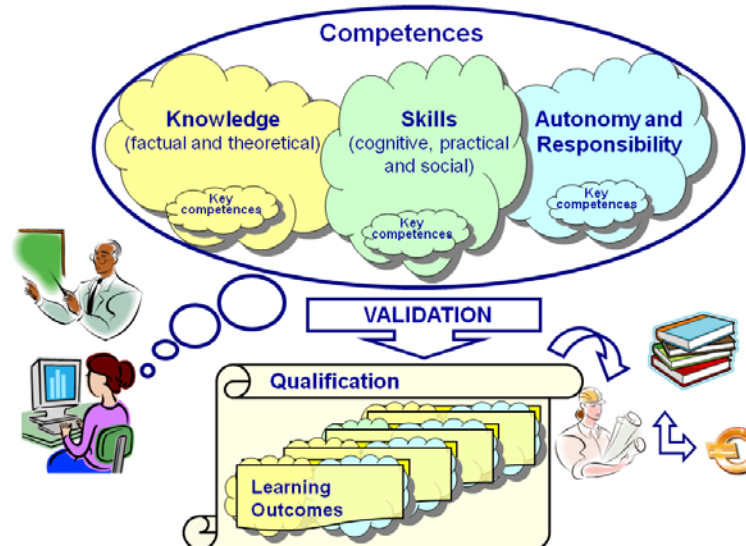
**Qualification** means the formal outcome of an assessment and validation process, which is obtained when a competent institution determines that an individual has achieved learning outcomes to given standards through the issue of a certificate or diploma.

This means that a qualification has a set of learning outcomes of a certain reference level, volume, profile and quality, certified by a certificate or diploma or some other official document issued by a competent body. Qualification refers only to competences that have been validated and assessed. This has traditionally been possible in the case of knowledge and skills, but with an adequate approach it is also possible for autonomy and responsibility. Knowledge and skills that cannot be assessed or measured may pose a challenge. Autonomy, and even more so responsibility, do not lend themselves easily to validation and assessment. This is why autonomy and responsibility are used in the sense of achieved application of some specific knowledge or skill. Namely, if a person possesses some factual and theoretical knowledge (of a specific profile, reference level, and volume), and some cognitive, practical and social skills (again of a certain structure, complexity, and amount), this entitles them to the associated autonomy, which further leads to the associated reference level of responsibility, and vice versa. When a need occurs for representing competences of a certain qualification for which there was no possibility of an acceptable measurable validation of their acquisition, then instead of representing the competences, the conditions and the activities carried out with the

goal of acquiring these competences are pointed out, and the validation of the corresponding knowledge and skills performed.

The complete set of achieved learning outcomes (of a certain volume), that have all been individually validated (and are therefore referred to as learning outcomes), are called a **qualification**.

References have been made above to basic qualification properties (reference level, volume, profile, and quality), that are only to be introduced and explained further in the text.



**Figure 2.4:** Qualification and its basic elements (learning outcomes represented through competences, or knowledge and skills, and the associated autonomy and responsibility).

### 2.3. Basic Properties of Qualifications and Learning Outcomes

**Reference Level of Qualification / Learning Outcomes** denotes the complexity and the scope of the acquired competences, and it is described by means of a set of level indicators / descriptors.

**Volume of Qualification / Learning Outcomes** denotes the total amount of acquired competences, and it is expressed in terms of ECTS or ECVET credits, or some other type of credits.

**Profile of Qualification / Learning Outcomes** denotes the field of work and study associated with the acquired competences, and it is expressed by a name.

**Quality of Qualification / Learning Outcomes** denotes the reliability of the issued official document in relation to the stated reference level, volume, and profile of the acquired competences.

**Level Indicators / Descriptors** are descriptions of the learning outcomes of a certain reference level.

**ECTS Credit (European Credit Transfer and Accumulation System)** is a measurement for expressing the volume of the acquired competences, and it is defined as the total average time a successful learner has spent to acquire such competences.

**ECVET Credit (European Credit System for Vocational Education and Training)** is a measurement for expressing the volume of the acquired competences, and it is defined as the total average time a successful learner has spent to acquire such competences.

**Workload** denotes the time spent on all learning activities necessary to achieve certain learning outcomes, including the time spent in the classroom, studying and assessing the acquired competences.

**Name of Qualification** denotes the type of qualification, with a clearly indicated profile of the qualification.

Generally speaking, it is possible to introduce different properties of learning outcomes, such as: the year when they were acquired, the way and the place where they were acquired, their main role and application, the name of the teachers, the name of the persons who validated and assessed the learning outcomes, individual grades, the average grade, the period during which the learning outcomes were acquired, etc. However, the Croatian Qualifications Framework introduces a minimum number of (measurable) basic properties of learning outcomes, and these are as follows:

- Reference level;
- Volume;
- Profile;
- Quality.

The reference level of learning outcomes denotes the complexity of the acquired competences, independent of other basic properties (volume, profile, and quality). For example, competences that involve creating a new model in a certain field are of a more complex reference level than competences that involve recognizing and applying certain terminology and accepted models in that field, but these in turn are of a higher reference level than those that involve only understanding this terminology and models.

The volume of learning outcomes denotes the total amount of the acquired competences and it is also independent from other basic properties (reference level, profile, and quality).

The profile of learning outcomes encompasses the field of work or study, the main role, profession, and other similar properties of learning outcomes, and it is (like reference level and volume) independent from other properties (reference level, volume, and quality). Profile can, for example, refer to mechanical engineering,

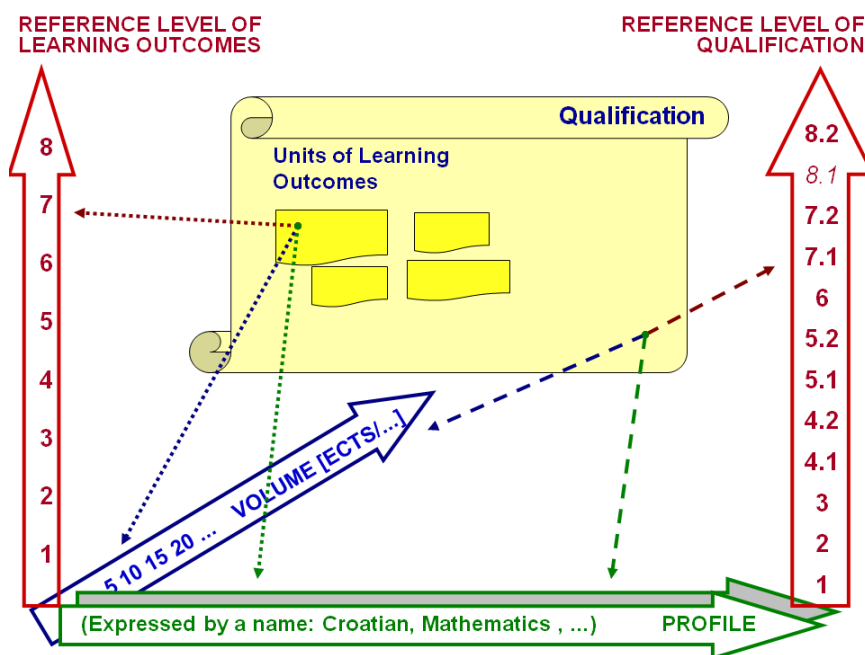
shipbuilding, mathematics or healthcare. The CROQF introduces two profile dimensions, which will be detailed further in the text.

The quality of learning outcomes is a somewhat different property and it denotes the reliability and credibility of the statement made by the official certificate (and other documents) documenting the other properties of learning outcomes. Quality is expressed in two dimensions: personal and institutional. The personal dimension of the quality of learning outcomes describes the reliability of the presence of learning outcomes (of the given reference level, volume and profile) as something that an individual possesses, and it is expressed in grades. Institutional quality indicates the reliability of relevant institutions that catered for the acquisition and formal validation of learning outcomes, including the issuing of the official certificate.

For each of the introduced basic properties (reference level, volume, profile, and quality), the CROQF introduces methods for identification and for expressing their values, separately for those of learning outcomes and those of qualifications.

The reference level of learning outcomes is determined by means of level descriptors. The value of the volume of learning outcomes is expressed in ECTS or ECVET credits (or some other credits), and profile is indicated as the name of learning outcomes.

The basic properties of learning outcomes and qualifications are presented in detail further below.



**Figure 2.5:** Basic properties of learning outcomes and qualifications. This illustration does not include the quality of learning outcomes and qualifications.

## 2.4. Additional Information on Qualifications

### 2.4.1. Qualification Standard

**Partnership** is a collaborative relation between two or more shareholders through which they create mutual benefit and which is based on trust and ethics.

**Occupational Standard** is a list of all responsibilities of a person in a certain job and a list of the required competences.

The occupational standard for an occupation is set by entrepreneurs, employers, and employer representatives, and it is defined by the expressions belonging to the relevant CROQF reference level.

**Qualification Standard** denotes the content and the structure of a certain qualification, including all the information necessary for determining the qualification reference level, volume and profile, as well as the information necessary for the quality assurance and enhancement of the qualification standard.

Both the occupational and qualification standards need to be made comprehensible to the wider public, rather than only to the experts.

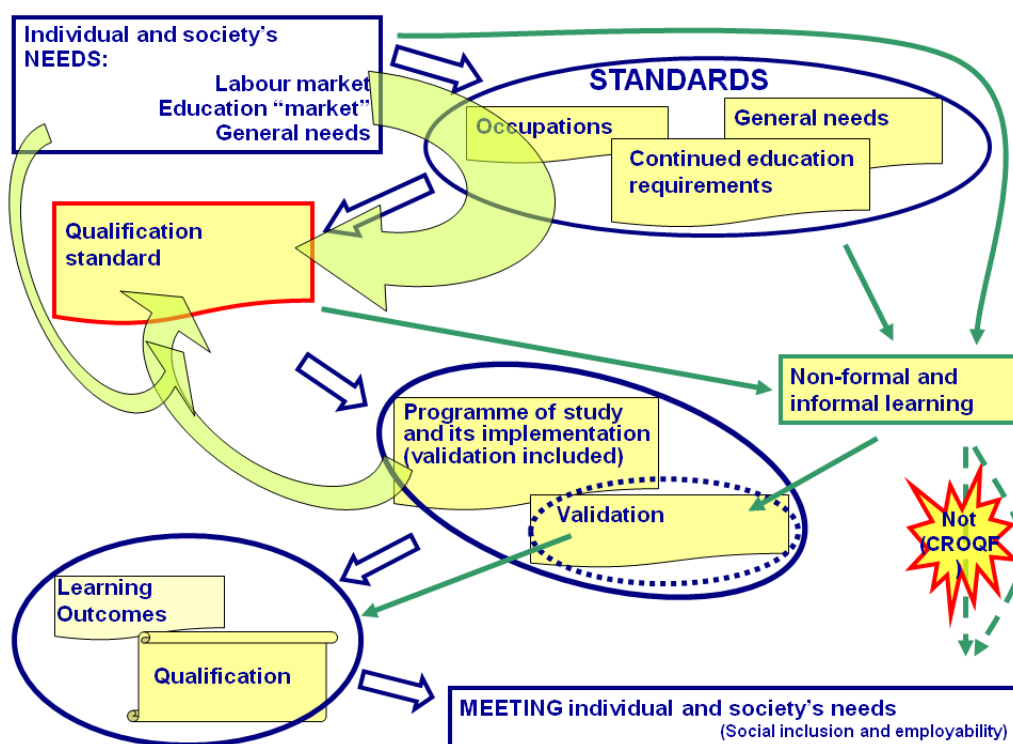


Figure 2.6: Developing the Qualification Standard.

## 2.4.2. Acquisition of Competences, Learning Outcomes and Qualification

**Lifelong Learning** denotes the activity of all forms of learning undertaken during one's lifetime and aimed at advancing one's knowledge and skills and the associated autonomy and responsibility for individual, social and professional demands.

**Formal Learning** denotes the activities of an authorized institution, performed in accordance with approved programmes of study, aimed at advancing knowledge and skills and the associated autonomy and responsibility for individual, social and professional demands, and accompanied by a certificate issued by a competent body.

**Curriculum** denotes a series of planned activities aimed at the acquisition of certain competences by an individual, and it includes: objectives; learning outcomes; content and methods of teaching; forms of learning, learning outcome validation, and a quality assurance system.

**Accessibility of the Education System** denotes open access to the education system to all members of society under equal and acceptable terms.

**Flexibility of the Education System** denotes the responsiveness of the education system to the current individual, social and professional demands.

**Progression of the Education System** denotes horizontal (the profile) and vertical (the reference level) mobility through the education system, aimed at the acquisition of competences, learning outcomes and qualifications.

**Non-Formal Learning** denotes organized learning activities aimed at advancing knowledge and skills and the associated autonomy and responsibility for individual, social and professional demands, which are not accompanied by a certificate issued by a competent body.

**Informal Learning** denotes unorganized activities of acquiring knowledge and skills and the associated autonomy and responsibility, through every-day experiences and other influences and sources from the environment, for individual, social and professional demands.

**Validation of Learning Outcomes** denotes a series of procedures aimed at assessing whether competences have been acquired, including the issuing of a certificate by the competent body in accordance with predefined and accepted criteria and standards.

**Validation of Non-formal and Informal Learning** denotes a series of procedures aimed at assessing whether learning outcomes have been achieved through non-formal or informal learning, including the issuing of a certificate by the competent body in accordance with predefined and accepted criteria and standards.



**Recognition of Learning Outcomes** denotes formal acknowledgment of learning outcomes for the purpose of continued education or employment, supported by required documents issued by the competent body.

**Recognition of a Qualification** denotes formal acknowledgement of a qualification for the purpose of continued education or employment, supported by an official certificate and other required documents issued by the competent body.

Many developed countries have recognized that all pathways to achieved learning outcomes, rather than only the formal one, are extremely important in the process of establishing a society of knowledge and social inclusion. Each pathway has a fundamental role and value. It is possible to recognize and point out a complete set of competences that are fundamental to society and that have a more lasting value than others. The others may belong to, for example, the set of competences that are subject to change due to the variable needs of the society and individuals.

It is beyond any doubt justified to organise the acquisition of the fundamental and lasting competences within the generally systematic formal pathway to competence acquisition – formal learning and education (e.g. competences acquired in schools and universities). Such a system includes only a limited number of (authorized) institutions, of (approved) programmes, and the approved system of individual competence validation and assessment.

A person may acquire other competences in various, more-or-less organized environments. Acquisition of certain competences may take place in organized activities that are not eventually validated or assessed in a formal and generally recognized way (non-formal learning), whereas some competences are even acquired in an unorganized way, in every-day activities (informal learning).

It is important to differentiate between formal and other forms of learning. Formal learning is a formally approved and generally recognised validation and assessment of acquired competences of every individual. The competences acquired through this pathway are called, as it has already been clarified, learning outcomes.

We underline here that it is not necessary to formalise non-formal and informal learning in order to validate and recognize the competences an individual has thus acquired. Should an individual still require this for any reason, it is necessary to provide him or her with the procedures and instruments for the validation of non-formally and informally achieved learning outcomes and to carry out their recognition in a clearly regulated way. Conducting these procedures may be handed over to institutions carrying out the procedures of external or internal validation, depending on the further organization of the system and the needs of society. However, non-formal and informal learning may have outcomes that consist of specific values, which are completely independent of those of formal learning, such as high adaptability to the labour market and individual needs, even if they are not formally recognized.

Examples are non-formally acquired competences in a foreign language (language school courses) and informally acquired computer knowledge and skills (at the workplace). Such competences are highly valuable to people, both at their workplace and in life in general, regardless of whether they have been formally

validated or not.

### 2.4.3. Classification of Qualification

**Type of Qualifications** denotes a qualification set regardless of the field of work or study.

**Class of Qualifications** denotes a qualification set with reference to status and role, and regardless of the qualification type.

Qualifications basically have the same fundamental properties as learning outcomes, and can be further classified in different groups, such as the type and the class of qualifications. In Croatia, there is already a certain classification by qualification type (e.g. in higher education: university bachelors, professional bachelors). Furthermore, classes of qualifications may also be observed in the existing Croatian system (e.g. the class of complete qualifications vs. the class of partial qualifications).

To exemplify, the teaching qualifications obtained at universities frequently have learning outcomes that may be divided in three (and even four groups). For instance, the class of complete qualifications for a physics and computer science teacher may be divided in: the partial qualification for a master of computer science, and a partial class of competences for a teacher. The complete qualification of a physics and computer science teacher has, for example, 300 ECTS credits, whereas partial classes of qualifications may have, for example, 120 + 120 + 60 ECTS credits, on the corresponding levels.

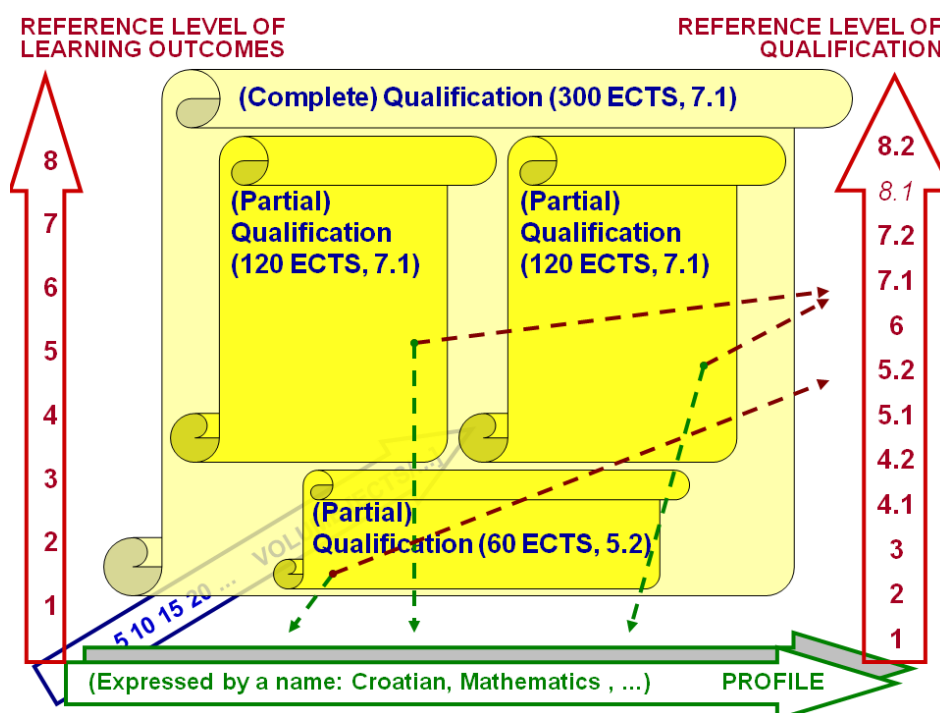


Figure 2.7: Classes of Qualifications.

#### 2.4.4. Qualification Role

**Employability** denotes a person's competitiveness in the labour market, with regards to the competences required in seeking initial, continued and new employment.

Employability does not only depend on the acquired competences of a person, but rather on a number of other factors: the economic, social, spatial and other conditions in which the individual and the labour market may find themselves in.

Meeting labour demands is not the sole purpose of qualifications. Another role is enabling continued education or meeting other individual needs (directed towards better social inclusion) or those of society and better social inclusion. Individuals' competitiveness arising from their qualifications depends on multiple factors, many of which are beyond both the individual's and society's control.

#### 2.4.5. Qualification Reliability and Validity

**Quality Assurance** denotes the system and procedures that an institution employs in order to maintain and continually perfect the agreed standards of its products and services.

Quality is one of the basic properties of learning outcomes as well as of the complete qualification, reflecting the reliability and validity of all the other properties of learning outcomes, i.e. qualification (reference level, volume, and profile). Qualification quality assurance therefore denotes the system and procedures that an institution employs in order to maintain and continually perfect the agreed values of the basic properties (reference level, volume, and profile).

**Transparency of Qualifications** denotes the visibility and clarity of the qualification content, which is the baseline for the qualification quality.

For example, the qualification standard ensures the transparency of the relevant qualifications, which is in turn conducive to the transparency, access, progression, award and quality of qualifications.

### 2.5. Questions for Discussion and Reflection

Name at least three properties that national qualification systems are concerned with, and another three that they definitely do not contain.

Concern about transparency, access, progression, award, and quality.  
Other procedures that are not contained by the above cannot be listed since all activities could in theory be directed towards the acquisition and recognition of learning outcomes. These may include the work carried out in banks, street markets, transportation, food production etc.

List three institutions that constitute the national qualifications framework and three that are definitely not a part of that system.

Education and Teacher Training Agency, the Ministry of Science, Education and Sports, secondary schools.  
Similarly as with the first question, it is not easy to single out institutions that are not part of the system, since some of the activities of almost all institutions may be directed towards the acquisition and recognition of learning outcomes.

What are the two primary objectives of the EQF?

Mobility and lifelong learning.

Does the EQF introduce direct procedures for the regulation of the reference level of qualifications?

No. The EQF regulates reference levels of certain qualifications only indirectly, through national qualifications frameworks or national qualifications systems.

Name three fundamental differences between the EQF and the Bologna Process.

The Bologna Process is concerned only with higher education, whereas the EQF with education in general.  
The Bologna Process is concerned only with formal learning, whereas the EQF with other forms of learning as well.  
The Bologna Process harmonizes higher education, whereas the EQF does not.

Single out two terms that illustrate the key idea behind the NQF: progress, prosperity, development, coordination, crediting, assistance, linking together.

Coordination and integration.

What is the purpose of the NQF?

The NQF provides the basis for transparency, access, progression, award and quality.

How are all competences represented in the context of the CROQF?

They are represented as knowledge, skills, and the associated autonomy and responsibility.

What is the set of acquired and linked pieces of information called in the context of the CROQF?

Knowledge (factual and theoretical).

What is the set of applied knowledge and previously known methods of work called in the context of the CROQF?

Skills (cognitive, practical, and social).

What is the set of achieved knowledge and skills application called in the context of the CROQF?

Autonomy and responsibility.

Give two examples of factual and theoretical knowledge, cognitive, practical and social skills, demonstrating the associated autonomy and responsibility.

...

What is the right to one's own management called in the context of the CROQF?

Autonomy.

What is the commitment to carrying out undertaken tasks called in the context of the CROQF?

Responsibility.

Name the groups of key competences for lifelong learning introduced by the EQF.

communication in the mother tongue;  
communication in foreign languages;  
mathematical competence and basic competences in science and technology;  
digital competence;  
learning to learn;  
social and civic competences;  
sense of initiative and entrepreneurship;  
and cultural awareness and expression.

Can the CROQF introduce other key competences?

Yes, it can.

What are the competences that an individual proves upon completing the process of learning called in the context of the CROQF?

Learning outcomes.

What is the minimum complete set of related learning outcomes called in the context of the CROQF?

Unit of Learning Outcomes.

What does a Module of Learning Outcomes denote in the context of the CROQF?

One or more Units of Learning Outcomes with a predetermined and aligned volume.

What is the set of competences of a certain reference level, volume, profile and quality, certified by some official document issued by a competent body called in the context of the CROQF?

A qualification.

Can a qualification contain competences that an individual has not proven upon the completion of the learning process?

Yes, it can. However, the possession of such competences needs to be proven by taking part in the formal process of their acquisition.

What are the four basic properties of qualifications?

Reference level, volume, profile and quality.

How is the complexity and the scope of the acquired competences referred to in the context of the CROQF?

Reference level.

How is the total amount of the acquired competences referred to in the context of the CROQF?

Volume.

How is the field of work or study of the acquired competences referred to in the context of the CROQF?

Profile.

How is the reliability of an issued official certificate in relation to the demonstrated reference level, volume, and profile of the acquired competences referred to in the context of the CROQF?

Quality.

What is the means for describing the reference level of qualifications / learning outcomes in the context of the CROQF?

Level indicators / descriptors.

What is the means for describing the volume of qualifications / learning outcomes in the context of the CROQF?

ECTS and ECVET credits or some other credit system.

What is the means for describing the profile of qualifications / learning outcomes in the context of the CROQF?
The name.
How is the volume of the acquired competences determined?
In terms of the average time that successful individuals spend on acquiring the given competences.
What is the list of all responsibilities of a person in a certain job and the list of the required competences called in the context of the CROQF?
Occupational standard.
What are the content and the structure of a certain qualification, including all the information necessary for determining the qualification reference level, volume and profile, as well as the information necessary for the quality assurance and enhancement of the contents, called in the context of the CROQF?
Qualification standard.
What is the activity of all forms of learning undertaken during one's lifetime and aimed at advancing one's knowledge and skills and the associated autonomy and responsibility for individual, social and professional demands called in the context of the CROQF?
Lifelong learning.
What are the activities of an authorized institution, performed in accordance with approved programmes of study, aimed at advancing knowledge and skills and the associated autonomy and responsibility for individual, social and professional demands and accompanied by a certificate issued by a competent body called in the context of the CROQF?
Formal learning.
What is the series of planned activities aimed at the acquisition of certain competences by an individual, which includes: objectives; learning outcomes; content and methods of teaching; forms of learning, learning outcome validation, and a quality assurance system, called in the context of the CROQF?
Curriculum.
What is the basic difference between non-formal and informal as opposed to formal learning?
In the case of the former, there is no certificate of the acquired competences issued by a competent body.
What is the series of procedures aimed at assessing whether competences have been acquired, including the issuing of a certificate by the competent body in accordance with predefined and

accepted criteria and standards, called in the context of the CROQF?

Validation of learning outcomes.

What is the series of procedures aimed at assessing whether competences have been acquired through non-formal or informal learning, including the issuing of a certificate by the competent body in accordance with predefined and accepted criteria and standards, called in the context of the CROQF?

Validation of non-formal and informal learning.

Which of the basic properties of qualifications (reference level, volume, profile) is used to determine the class of qualifications (complete and partial)?

Volume relative to the reference level.

Is employability the single role of a qualification? If not, provide other examples.

No. For example, continuing one's education is another, or pleasure.

Taking into consideration the definition of the concept of quality assurance in the CROQF, briefly describe the meaning of qualification quality assurance.

Qualification quality assurance refers to the system and the procedures that an institution employs in order to maintain and continually perfect the agreed values of the basic properties (reference level, volume, profile).

What does the qualification standard ensure?

Qualification transparency, i.e. its transparency, access, progression, award and quality.



# 3. Overview of the Development of the Croatian Qualifications Framework

In order to paint a complete picture, we will give a brief overview of the course of development of the Croatian Qualifications Framework in this chapter.

## 3.1. Committee for the Development of the CROQF

Although the idea had been conceived before that date, the development of the Croatian Qualifications Framework officially commenced in March 2006 when the Ministry of Science, Education and Sports formed a relevant committee chaired by the Minister. Following consultations with numerous partners, at the beginning of 2007 the Ministry sent the Baseline of the Croatian Qualifications Framework to the Government for adoption and it proposed continued work on the development and the implementation of the CROQF. In July 2007, the Government adopted the Baseline of the CROQF and the Committee for the Development of the CROQF was established.

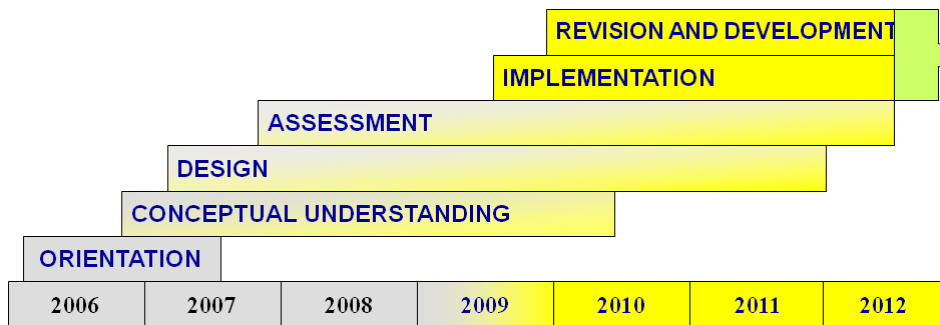
As its title indicates, this first document provided the baseline for the development of the entire Croatian Qualifications Framework. It gave guidelines for the harmonization of the legislation regulating primary and secondary education, science and higher education, i.e. lifelong learning. The document laid down the main aims of the CROQF, the principles to guide its development, and the key elements of the CROQF design.

On 9 April 2008, the Ministry of Science, Education and Sports issued the Decision on the Establishment of the Operational Team in Support of the Committee for the Development of the Croatian Qualifications Framework. The appointed members of the Operational Team included representatives of institutions involved in education on various levels, from primary to higher education, including educational institutions, relevant agencies and ministries, and representatives of the business sector. The Decision defines the tasks of the Operational Team as follows:

- preparing the material and documents required for drafting the CROQF, in accordance with the plan of activities adopted by the Committee for the Development of the CROQF;
- organizing and participating in specialized conferences in accordance with the plan of activities;
- preparing proposals within the scope of its institutional competences;
- presenting its results in conferences, workshops and meetings.

The Committee and the Operational Team are due to draft and implement the Croatian Qualifications Framework by 2012.

The first phase of the development of the CROQF has been denoted as the orientation, signalling that Croatia is committed to the development of the Croatian Qualifications Framework in the given period. The following phases are: conceptual understanding, design, assessment, implementation, revision and development. The phases following the initial implementation – implementation, revision and development – should be set up as a stable institutional phase of coordination and development of the Croatian Qualifications Framework. To maximize efficiency, the phases overlap, as the illustration below shows.



**Figure 3.1:** Phases of Development of the CROQF.

### 3.2. Aims of the CROQF

The aims of the Croatian Qualifications Framework, set out in the Baseline of the CROQF are:

1. Understanding different types of qualifications and their interrelations;
2. Enhancing cooperation among various stakeholders in education;
3. Lifelong access to the education system;
4. Providing a clear outline of educational accomplishments for employers, learners and parents;
5. Creating a single system of quality assurance and enhancement for existing and new qualifications;
6. Sustainable employability;
7. Setting up a system for the validation and recognition of competences acquired at the workplace and through other pathways;
8. Simplicity of validation and recognition of foreign qualifications;
9. Recognition of Croatian qualifications abroad;
10. Promotion of education in Croatia.

As it was pointed out when the concept of the Croatian Qualifications Framework was first introduced, the CROQF provides basis for the transparency, access, progression, award and quality of qualifications, taking into consideration the interests and needs of the labour market, individuals and society as a whole. All the listed specific aims spring out of this main goal.

Understanding different qualification groups, especially types and classes of qualifications, as well as their interrelations, is one of the key preconditions for the transparency of the entire qualifications system. It is therefore clear why it is

essential to meticulously and systematically introduce each and every type and class of qualifications, and to name them adequately. This is in turn possible only if their basic elements and properties have been recognized and carefully selected. Enhancing cooperation among different stakeholders in education arises directly from the general goal of the CROQF – coordination and linking together of all parts of the qualifications system.

Lifelong access to the education system for all is also pointed out as one of the specific aims of the CROQF. The CROQF is designed and developed exactly in order to serve as the cornerstone for the development of an acceptable, imperative and just accessibility of the education system.

A clear outline of education accomplishments is achieved once a clear and simple representation of all properties of qualifications is put into place, and the CROQF is the instrument that is responsible for that.

Creating a single quality assurance and enhancement system for existing and new qualifications is a specific aim that is realized by the implementation of the CROQF.

The general goal of the CROQF is to ensure the interrelation and coordination of all parts of the qualifications system, the labour market being one of them. This makes sustainable employability a specific goal whose realization is a direct consequence of the realization of the general goal of the CROQF in the process of its implementation.

Setting up a system for the validation of non-formal and informal learning is one of the specific aims of the CROQF, and it is justified primarily by the new demands and volatility of the labour market. Acquisition of new competences is not achieved exclusively through the formal pathways, but through all others.

Simplicity of validation and recognition of foreign qualifications will be an immediate result of the implementation of the CROQF, EQF and other national qualifications frameworks.

Recognition of Croatian qualifications abroad will be facilitated by the implementation of the CROQF.

Promotion of education in Croatia, especially at the doctoral study level, should be prioritized at the national level, which will be made possible as a result of the development and adequate implementation of the CROQF.

### **3.3. Principles Guiding the Development of the CROQF**

The principles guiding the development and drafting of the Croatian Qualifications Framework are as follows:

1. Respecting Croatian legacy and the existing system of education;
2. Embracing EU guidelines and the experience of other countries in setting up their respective qualification frameworks;
3. Preparing society for European integration;
4. Transparency of existing and new qualifications;
5. Clear categorization of qualifications by reference level, type and class;

6. Vertical and horizontal progression of competences;
7. Equal educational opportunities;
8. Partnership among state institutions, employers, unions and educators;
9. Upgrading the capacity of the Croatian Qualifications Framework.

Respecting Croatian legacy and the existing system of education is a principle that we should abide by whenever introducing something new, including the CROQF.

Croatia has committed to join the European Union, and it should thus embrace the EU guidelines and the experience of other countries, especially that of the EU member states, in setting up their respective qualifications frameworks. This is the way to build up this instrument properly and to get feedback on its adequate development and implementation. However, specificity and originality in development and implementation must be nurtured. An original approach to the CROQF may enable the Croatian economy and education to find its strategic place and establish partnerships.

The transparency of existing and new qualifications is an indispensable principle in the implementation of the CROQF, and clear categorization of qualifications by reference level, type and class is a principle that, if followed, creates the basis for simplicity.

Horizontal and vertical progression leads to an optimal use of all resources in acquiring competences necessary to meet the needs of the labour market, individuals and society as a whole.

Equal educational opportunities is a principle that Croatia must not give up. Competences that a person gains through learning are not only a personal tool for meeting one's personal goals, but primarily a tool for stepping up social inclusion and the economy. That is why striving for equal educational opportunities for each individual is beneficial for both the society and every individual.

Partnership is another key principle indispensable for the implementation of the CROQF, and the CROQF upgrading capacity supports its sustainability and efficiency.

### **3.4. Activities and Results Related to the Development of the CROQF**

Activities for the development of the CROQF commenced in March 2006, when the Ministry of Science, Education and Sports formed a relevant committee. Following consultations with numerous partners, at the beginning of 2007 the Ministry sent the Baseline of the Croatian Qualifications Framework to the Government for adoption. In July 2007, the Government adopted the Baseline of the CROQF and the Committee for the Development of the CROQF was established.

The Committee for the Development of the CROQF adopted a 5-year Plan of Activities for the Development of the CROQF on 19 March 2008. Pursuant to the Committee's decision, in April 2008 the Ministry of Science, Education and Sports

established the Operational Team in Support of the Committee for the Development of the CROQF.

In the first year from its establishment (May 2008 – May 2009), The Operational Team organized eight workshops (in Zagreb, Ogulin, Brodarica, Plitvička jezera, Zagreb, Opatija, Plitvička jezera, Crikvenica), laying the groundwork for comprehensive understanding and the implementation of the CROQF. In the same period, the members of the Operational Team organized over 50 public presentations and consultations with all partners, with the total participation of over 5,000 people from:

- Primary and secondary schools, and institutions of higher education;
- All agencies and centres which support educational institutions;
- Some ministries;
- Representatives of the economy and leading Croatian companies;
- Union representatives;
- Some vocational associations and federations;
- University student population;
- Foreign experts and international agencies;
- and the wider public.

Preparatory work for the implementation of the CROQF proved to be of great interest to the international community and some EU member states, as a result of which Croatia was invited to join an international cluster of several European countries. At the time when this book is being written, this process has just begun and Croatia has been recognized as an important partner in coming to understand the complete process.

Members of the Operational Team have also released a number of papers in domestic and international publications. Finally, cooperation has been set up with other relevant activities in Croatia.

Further details on these activities and results are set out in the documents listed in the References section at the end of this book.

The fundamental documents arising from the past activities and laying groundwork for further activities (which can be found in the list of references) are the following:

- **Appendices to the Baseline of the Croatian Qualifications Framework**
  - Overview of documents and information relevant to the CROQF
  - European Qualifications Framework
  - National qualifications frameworks of some countries
- **Baseline of the Croatian Qualifications Framework**
  - Aims of the Croatian Qualifications Framework
  - Principles of the Croatian Qualifications Framework
  - Outline of the Croatian Qualifications Framework by reference levels
- **Concepts**
  - List of concepts vital for understanding the CROQF development process
  - Qualification elements and their basic properties
- **Plans of activities** – multi-annual and annual

- **Proposal of Working Groups for the Development of Qualifications**
  - List of working groups by educational sectors
  - Aims, tasks and results of the working groups
  - Criteria for working group appointment
  - Procedures and dynamics of working group formation and activities

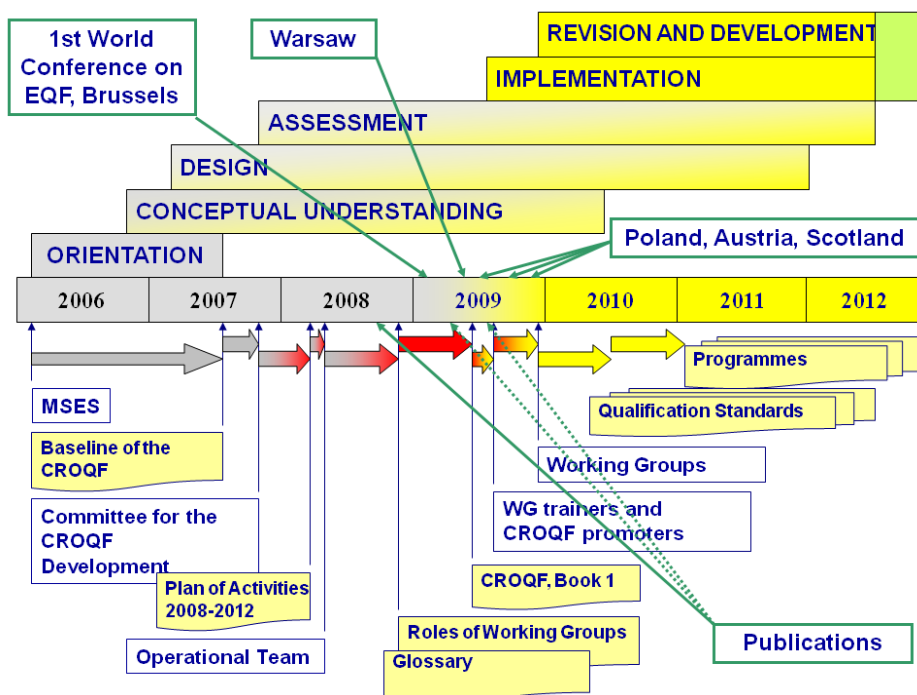


Figure 3.2: Activities and Results Related to the Development of the CROQF.

### 3.5. Questions for Discussion and Reflection

List the phases of the development and implementation of the CROQF.	Orientation, conceptual understanding, design, assessment, implementation, review and development.
Name and explain the aims of the CROQF.	The answer is in section 3.2 of this book.
Name and explain the principles of the development of the CROQF.	The answer is in section 3.3 of this book.

## 4. Overview of Other Related Activities

This chapter gives a brief outline of some major activities at the national and international level which are in close relation to the development of the Croatian Qualifications Framework.

### 4.1. Bologna Declaration

The Bologna Declaration (the Bologna Process) is a joint declaration on the harmonization of the higher education systems and on the common quality assurance standards made by the European Ministers on 19 June 1999 in Bologna. The Declaration also introduces the basic higher education cycles and the higher education ECTS credit system, aimed at spurring student mobility.

Croatia signed the Bologna Declaration in 2001 in Prague.

### 4.2. Lisbon Strategy

The Lisbon Strategy (Lisbon Agenda, Lisbon Process) is an action and development plan for the European Union. Its aim is to make the EU "the most dynamic and competitive knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion, and respect for the environment by 2010". It was set out by the European Council in Lisbon in March 2000.

In the mid-term review of the Lisbon Strategy, 22 and 23 March 2005, the key fundamental values promoted by the EU were reiterated – economic growth, creativity and innovation, employability, social cohesion, and mobilizing all national and social resources. Three dimensions were accentuated again: economy, society and environment. On that occasion some amendments were also made. Innovation and learning were recognized as the driving force behind economic growth. Renewability was introduced as a key concept in both the area of social relations and the environment. An example of a specific measure the Lisbon Strategy has given rise to is the Seventh Framework Programme (FP7), to which Croatia has become a full-fledged party, being granted all the rights and obligations.

### 4.3. Copenhagen Declaration

The Copenhagen Declaration is a process at the EU level aimed at enhancing cooperation in the field of vocational education and training. As a response to the

European Council resolution passed in Barcelona in 2002, the Copenhagen Declaration sets into motion similar activities in the field of vocational education and training to those that the Bologna process initiated in the field of higher education. One of the specific aims of the Declaration is forging ties between the EU and non-EU member states belonging to the European Economic Area.

The Copenhagen Declaration is an integral part of the Lisbon Strategy and it underlines the following specific aims: i) reinforcing cooperation among European countries and stimulating mobility; ii) increasing transparency and information exchange; iii) recognition of competences and qualifications; and iv) quality assurance.

The Declaration was adopted by European Ministers in Copenhagen on 29 and 30 November 2002.

#### **4.4. Instrument for Pre-Accession Assistance (IPA)**

The Instrument for Pre-Accession Assistance (IPA) is a recently introduced form of EU assistance to Croatia for the 2007 – 2013 period, established pursuant to a Council Regulation for the assistance to candidate and potential candidate countries in transposition and implementation of the EU *acquis communautaire*. The fourth component of the IPA Operational Programme, “Human Resources Development,” has the aim of intensifying investment in human capital in Croatia and promoting employability by supporting the development and implementation of a harmonized human resource development policy and the National Qualifications Framework.

#### **4.5. European Qualifications Framework**

The European Qualifications Framework (EQF) is an instrument establishing qualification reference levels, developed as a translation tool between the qualifications of different national (and sectoral) qualifications frameworks. It has two key goals: to promote citizen mobility and encourage lifelong learning.

As an instrument for the promotion of lifelong learning, the EQF encompasses all qualification reference levels that may be acquired in the course of general, vocational and university education and training, both within initial education and lifelong learning.

Eight qualification complexity levels are described in terms of general learning outcome level indicators, rather than input elements. Learning outcomes are expressed in terms of knowledge, skills, as well as autonomy and responsibility, referred to as competence. The knowledge includes factual and theoretical knowledge, i.e. acquired pieces of information and their linking together. The skills are divided into cognitive (logical and creative thinking) and practical (manual dexterity and use of methods, instruments, tools and materials) skills.

The EQF officially came into force on 23 April 2008, but the required criteria and procedures are still being developed.



#### **4.6. Secondary School Leaving Examination (the State Matura)**

The Secondary School Leaving Examination (the State Matura) is a set of exams carried out under the same terms and criteria for all secondary school students at the same time, providing comparable learning outcomes at the national level.

The content, conditions, methods and procedures for conducting the State Matura are set out in the Primary and Secondary Education Act (Official Gazette 87/2008) and the Bylaw for the Secondary School Leaving Examination (Official Gazette 97/2008).

The purpose of the Secondary School Leaving Examination is the assessment and validation of the learning outcomes acquired in the course of education provided in accordance with the prescribed plans and programmes of general education.

The Secondary School Leaving Examination is taken by students attending the grammar school (*gimnazija*) programme of study. By passing the State Matura exam they complete their secondary education.

Students doing vocational and art programmes of study in the duration of minimum four year, who complete their education by preparing and defending their graduation thesis, may take the secondary school leaving exam organised and conducted in their respective school if they want to continue their education at the higher educational level. Provisions on taking the secondary school leaving examination apply to students who enrolled in the first grade of grammar school (*gimnazija*) or four-year vocational and art schools in the school year 2006/2007.

#### **4.7. Croatian National Educational Standard**

The Croatian National Educational Standard is a set of norms containing: standards applicable to the educational contents; standards of educational achievements; teaching standards; standards relating to monitoring and validation of student accomplishments; standards of professional training and development of teachers.

In accordance with the general indicators of national educational standards (Development of National Educational Standards, Bundesministerium für Bildung und Forschung, Berlin, 2004), its purpose is to steer and guide schools towards the realization of compulsory educational goals and desirable learning outcomes. National educational standards are envisaged as roadmaps for teachers, students and parents in the provision and permanent improvement of education.

The aims of the Croatian Educational Standard are unburdening students by reducing the proportion of encyclopaedic contents requiring memorization and reproduction; classes based on the process of teaching rather than mere lecturing/presenting; student-oriented teaching, paying heed to students' capacities and aptitudes; introducing students to research-oriented methods of learning; acquisition of permanent and applicable knowledge; acquisition of competences and skills; developing problem-solving and decision-making skills; encouraging entrepreneurship; building competences for lifelong learning; strengthening the pedagogical role of schools; enhancing cooperation between schools and the local community; acquisition of social and ethical skills and views.

#### **4.8. National Framework Curriculum**

The National Framework Curriculum for Pre-school Education and General Compulsory Education in Primary and Secondary Schools (NFC) was conceived as the fundamental document at the national level that regulates the values and general goals of education, sets out learning outcomes to be achieved by the completion of education, what should be learned and how, and how the quality of student accomplishment and educational work is to be monitored and assessed.

The NFC is envisaged as the point of reference in the development of all other curriculum-related documents and guidelines for curriculum implementation, as well as in the development of textbooks and all other teaching aids and materials, definition of standards and criteria for the assessment of the quality of student accomplishments and educational work, and the basis for the planning and programming of education in schools. The key competences for lifelong learning implicitly permeate all the qualifications, and this is why special attention should be paid to the development of the NFC.

#### **4.9. Recognition of Foreign Qualifications**

The recognition of foreign educational qualifications is regulated under the Act on the Recognition of Foreign Educational Qualifications (Official Gazette 158/2003, 198/2003, 138/2006), separating the procedure in the area of higher education from that in primary and secondary education.

The Ministry of Science, Education and Sports carries out the activities of recognizing primary and secondary education qualifications, for both completed education and periods of study, as well as for adult education programmes.

The Agency for Science and Higher Education (a department thereof – the ENIC/NARIC office) conducts the activities of recognizing foreign higher education qualifications pursuant to a prior opinion issued by the Council for the Assessment of Foreign Higher Education Qualifications for the purpose of employment in Croatia. Recognition for the purpose of continued education, whether of qualifications or periods of study abroad, is carried out by competent offices within higher education institutions.

These activities have superseded the process of 'nostrification' of foreign qualifications.

The process of the recognition of foreign qualifications is based on the Lisbon Convention of 1997.

#### **4.10. Quality Assurance**

Quality assurance in science and higher education is regulated under the Act (Official Gazette 45/2009) and is within the competence of the Agency for Science and Higher Education and all scientific and higher education institutions. The Agency is responsible for the external and the institutions for the internal system of quality assurance.

The Agency caters for:

- Quality assurance and enhancement in the field of science and higher education;
- Initial accreditation and re-accreditation;
- Validation by areas;
- Impartial periodic external evaluation of the internal quality assurance system.

The Act makes unprecedented clear reference to resources and the degree in which they meet society's needs.

Quality assurance constitutes a vital part of the Croatian Qualifications Framework and it is essential to put effort in developing a quality assurance system in Croatia. Building a common quality assurance system is one of the aims of the CROQF.

#### 4.11. Questions for Discussion and Reflection

Put the following activities at the EU level (the Bologna Declaration, the Lisbon Strategy, the Copenhagen Declaration, the EQF) in chronological order and match them with a role (general role, general education, VET, higher education).

The Bologna Declaration – higher education; the Lisbon Strategy – general role; the Copenhagen Declaration – VET; the EQF – general, vocational and higher education.

Put the following activities at the national level (the Secondary School Leaving Examination, the Croatian National Educational Standard, and the National Framework Curriculum) in chronological order and match them with a role (primary education, general education, secondary education in grammar schools (*gimnazija*), secondary vocational education, higher education).

The Croatian National Educational Standard – primary education; the Secondary School Leaving Examination – secondary grammar school education, also open to students receiving four-year vocational education; the National Framework Curriculum – the general part of primary and secondary education.

Which institutions are involved in the process of foreign qualification recognition?

MSES – qualifications falling into the primary and secondary education level; the Agency for Science and Higher Education – qualifications falling into the higher education level for the purpose of entering the labour market; competent higher education institutions – higher education for the purpose of continued education.

# 5. Basic Properties of Learning Outcomes and Qualifications

We already introduced the concept of a qualification, but also learning outcomes as its basic elements in the chapter on basic concepts. A qualification is a set of learning outcomes, whose acquisition is validated and supported by a certificate issued by a competent body. Learning outcomes are sets of competences, represented in terms of knowledge and skills, and the associated autonomy and responsibility.

## 5.1. Profile

One of the major questions arising in relation to the topic of qualifications is the one of the ability to discern among different learning outcomes, and as a result, among different qualifications. What are the properties that constitute and help differentiate among different learning outcomes?

We can easily call to mind competences that go under the name: mathematics, English, Croatian, entrepreneurship, natural science etc. But, is that enough to be able to differentiate among them? We will soon agree that their names are not strong enough bases for their differentiation. Venturing to further describe them, we might categorize them. We might, for example, say that physics and chemistry belong to natural sciences. We might go even further with the classification and introduce new categories of competences. For example, we might say that mechanics, thermodynamics and optics constitute competences in physics. Moreover, we might elaborate that even further and list geometrical optics, wave optics and quantum optics as parts of optics. However, breaking competences down in the described way will not help us precisely describe a competence. This kind of classification only helps us represent one of its basic properties – its profile.

## 5.2. Reference Level

The second basic property of learning outcomes (and of a qualification) is its reference level. The reference level expresses the complexity and scope of the acquired competences, i.e. learning outcomes (and a qualification). Within the same profile we might differentiate among different levels of complexity. For example, within wave optics, a person may have competences that allow them only to recall terms and theories, and another person may successfully apply their competences of the same profile in solving some complex problems. Even though they belong to the same profile, these competences are not identical, i.e. they differ in the value of another basic property – the reference level.

### 5.3. Volume

In order to get a complete picture, learning outcomes must also be viewed in terms of their volume. It is only when we have the information about their profile, reference level and volume that we can have a complete picture (providing that the reliability criterion is met).

Providing there is complete reliability, the three properties fully define learning outcomes and they are not mutually dependent. It means that none of them is determined in dependency of one or a combination of the other two basic properties. It may therefore be said that these are complete and basic properties of learning outcomes. They are said to be complete because there are no other properties defining learning outcomes, and basic because each of them is independent of the other two. Any additional properties we might introduce would depend on one or a combination of more basic properties.

### 5.4. Quality

#### 5.4.1. Personal Dimension of Quality

However, do the three basic properties entirely determine learning outcomes and a qualification? They would if the reliability of the values of the three basic properties were given, i.e. if their values were completely truthful.

But we have learned from experience that this is not necessarily so. We do not perceive learning outcomes stated in official documents (e.g. diplomas, certificates, supplements) as equally reliable. Two persons may have finished the same programme of study in the same institution and in the same time period, thus having acquired a certain qualification. However we perceive their competences as different based on their grades. It is said that grades reflect a higher or lower degree of reliability of the stated learning outcomes.

This property is called quality or, more specifically, only one of its dimensions – the personal dimension of quality.

#### 5.4.2. Institutional Dimension of Quality

The second dimension of quality concerns the institution that issued the official certificate, or several institutions (those that issued the certificate, those that participated in the learning outcome validation, those that participated in the organization, implementation and management of the quality of the teaching process, as well as in assuring and enhancing the quality of all other related activities).

For example, if we imagine a set of competences that are identical in terms of profile, reference level and volume of learning outcomes as well as in terms of grades, that reflect the personal dimension of quality, we will still not see such a set of learning outcomes as identical, since our perception will depend on the institution (or institutions) that corroborated their acquisition and the institutions that

participated in organizing the acquisition of these competences.

The entirety of the properties of reliability (both personal and institutional) is referred to as quality.

## **5.5. Determining the Properties of Learning Outcomes and Qualifications**

For each of the listed basic properties (reference level, volume, profile, and quality), the Croatian Qualifications Framework introduces a method for determining and representing its value, separately for learning outcomes and a qualification.

The reference level of learning outcomes is determined by means of level indicators or descriptors. The value of the volume of learning outcomes is represented by ECTS or ECVET credits (or some other type of credits), and the profile by the name of the learning outcome. The quality is expressed in grades and institutions responsible for all the activities, beginning with the proposal of the qualification standard, proposal of the programme of study, implementation of the programme of study, to all forms of validation. The system regulating quality assurance and enhancement is another element in representing the quality of learning outcomes.

The details on determining each of the basic properties can be found further below.

### **5.5.1. Determining the Reference Level of Learning Outcomes**

In the CROQF, level indicators (descriptors) are laid down in such a way that they encompass the whole spectrum of learning outcomes, independent of the form of learning or the institution; from primary school, through all educational levels, all the way to the doctoral level, and even further when applicable. They cover work activities, studying, academic activities, as well as vocational education for the primary purpose of entering the labour market. They also include the entire initial education, as well as that directed towards professional development, i.e. all forms of learning – formal, non-formal and informal – during the course of a lifetime.

In describing the level of complexity, level indicators also reflect specialization or general orientation. It means that moving further up towards the highest reference level does not necessarily imply increasing specialization of the acquired knowledge and skills. It, of course, often is the case, especially in the field of research. However, moving up sometimes means moving towards a more general understanding of a certain field of study.

Level indicators in the CROQF are made sufficiently distinct from one reference level to another, thus indicating the growth of complexity and scope. All reference levels are organized in such a way that the higher reference levels automatically include all that is contained by the lower reference levels. This is understood implicitly in the CROQF and needs not be explicitly stated. Elementary and unambiguous terms have been introduced for the purpose of differentiating among different reference levels.

In verbalizing level indicators in the CROQF, only positive expressions were chosen, paying special heed to their clarity. Terms like “appropriate” were avoided.

The idea was to make the description at the same time as clear and as generic as possible. Also, terms that are understandable to the wider community were preferred over those that only experts understand.

In the CROQF, level indicators of the reference level of learning outcomes are depicted in terms of the complexity of the following competences:

- knowledge
  - factual
  - theoretical
- skills
  - cognitive
  - practical
  - social
- and the associated autonomy and responsibility.

It must be stressed that the order of depicting competences does not reflect their importance, but rather their logical interrelation. It is assumed that the qualifications involving a higher level of skills than knowledge might be interesting to some business sectors, but this is not necessarily the case. In some qualifications, certain parts of knowledge may belong to one reference level and skills to some other. Generally speaking, all competences have an equal value, but an individual qualification determines what is in its case important, and what is not.

In certain sectors, qualifications may be generated for all the reference levels, whereas in some others this is possible only on higher levels, or even only on the 8<sup>th</sup> level. It is sometimes possible to have qualifications only on lower levels.

It is worth noting that the development of one's qualifications does not necessarily go from lower to higher reference levels. Even though it might be true in most cases, it is also possible that a person gains a qualification at the 7<sup>th</sup> reference level, only to later acquire another qualification at the 5<sup>th</sup> level. Furthermore, it is not implied that the qualifications at higher levels are necessarily more worthy and that they deserve a higher award than those at lower levels and of a different profile. It only means that certain responsibilities that an occupation involves may not be assumed without qualifications of a certain reference level, of an adequate volume and profile (keeping in mind the reliability, i.e. quality).

In developing level indicators for the CROQF, the EQF descriptors were partially used, but they were not directly copied. They only served for orientation and better understanding of their idea and role.

Some key competences are explicitly indicated in the CROQF (e.g. in terms of the associated autonomy and responsibility, or directly, in terms of knowledge and skills). However, the key competences should be explicitly included in each qualification. This is something that should be ensured by the further development and implementation of the CROQF.

In the tables below, complexity for each representation of competences is provided – factual and theoretical knowledge; cognitive, practical and social skills; and the associated autonomy and responsibility. For the sake of clarity, the tables have

been physically separated (but an integrated table is also given further below).

Reference levels	Knowledge: factual
8	<b>Creating and evaluating new</b> factual knowledge in a field of research <b>that extends the frontier of knowledge</b>
7	<b>Evaluating</b> factual knowledge <b>at the frontier of knowledge</b> in a field of work or study and <b>at the interface with other fields</b> , potentially providing <b>basis for research</b>
6	<b>Evaluating</b> factual knowledge in a field of work or study, some of which is <b>at the frontier of knowledge</b> in the field of work or study
5	<b>Analyzing and synthesizing</b> factual knowledge in a field of work or study, giving rise to <b>the awareness of the frontier of knowledge</b> in the field, and evaluating it
4	<b>Analyzing</b> factual knowledge in a field of work or study
3	<b>Applying basic</b> factual knowledge in the execution of tasks in a field of work or study
2	<b>Comprehending basic</b> factual knowledge in the execution of <b>simple</b> tasks in a field of work or study
1	<b>Memorizing general</b> factual knowledge
Reference levels	Knowledge: theoretical
8	<b>Creating and evaluating new</b> theoretical knowledge in a field of research <b>that extends the frontier of knowledge</b>
7	<b>Evaluating</b> theoretical knowledge <b>at the frontier of knowledge</b> in a field of work or study and <b>at the interface with other fields</b> , potentially providing <b>basis for research</b>
6	<b>Evaluating</b> theoretical knowledge in a field of work or study, some of which is <b>at the frontier of knowledge</b> in the field of work or study
5	<b>Analyzing and synthesizing</b> theoretical knowledge in a field of work or study, giving rise to <b>the awareness of the frontier of knowledge</b> in the field, and evaluating it
4	<b>Analyzing</b> theoretical knowledge in a field of work or study
3	<b>Applying basic</b> theoretical knowledge in the execution of tasks in a field of work or study
2	<b>Comprehending basic</b> theoretical knowledge in the execution of <b>simple</b> tasks in a field of work or study
1	<b>Memorizing general</b> theoretical knowledge
Reference levels	Skills: cognitive
8	
7	<b>Abstract creative thinking</b> (necessary in research for the generation of new knowledge and procedures and for the integration of different fields)
6	<b>Abstract logical thinking</b> (required to generate solutions to abstract problems) in unpredictable conditions
5	<b>Simple abstract creative</b> thinking (required to generate solutions to abstract prob-



Reference levels	Skills: cognitive
	lems) in partially unpredictable conditions
4	<b>Simple abstract logical</b> thinking (required to select and apply relevant information in the course of execution of a series of complex specific tasks) in changeable conditions
3	<b>Simple concrete creative</b> thinking (required to select and apply relevant information in the course of execution of a series of complex routine tasks) in familiar conditions
2	<b>Concrete logical</b> thinking (required to apply relevant information in the course of execution of a series of simple tasks) in familiar conditions
1	<b>Simple concrete logical</b> thinking (required to execute simple concrete tasks) in familiar conditions

Reference levels	Skills: practical
8	<b>Creating, analyzing and evaluating new</b> proposed specialized movements and new methods, instruments, tools and materials
7	Performing complex movements and an advanced use of methods, instruments, tools and materials as well as developing <b>complex</b> methods, instruments, tools and materials, required in research and innovation
6	Performing complex movements and an advanced use of methods, instruments, tools and materials in <b>unpredictable conditions</b> as well as developing <b>complex</b> methods, instruments, tools and materials
5	Performing complex movements and an advanced use of methods, instruments, tools and materials in <b>partially unpredictable conditions</b> as well as developing <b>simple</b> methods, instruments, tools and materials
4	Performing <b>complex</b> movements and a complex use of methods, instruments, tools and materials (in executing a series of complex specific tasks) in changeable conditions
3	A <b>complex</b> use of methods, instruments, tools and materials in familiar conditions
2	A <b>simple</b> use of methods, instruments, tools and materials in familiar conditions
1	<b>Performing simple routine movements</b> in familiar conditions

Reference levels	Skills: social
8	<b>Creating new social and generally acceptable forms of communication and cooperation</b> with groups of different affiliations and nationalities
7	Management and realization of complex communication and cooperation in <b>different social groups and nations</b> in unpredictable conditions
6	Management and realization of complex communication and cooperation in <b>different social groups</b> in unpredictable conditions
5	<b>Management</b> and realization of complex communication and cooperation in a group in <b>partially unpredictable</b> conditions
4	Realization of <b>complex</b> communication and cooperation in a group in <b>changeable</b> conditions

3	Realization of <b>complex</b> communication and cooperation in a <b>group</b> in familiar conditions
2	<b>Realization of simple communication and cooperation with individual persons</b> in familiar conditions
1	<b>Following general rules of behaviour</b> in familiar conditions

Reference levels	Autonomy
8	<b>Demonstrating personal professional and ethical authority and a sustained commitment</b> to the research and development of new ideas and processes
7	Managing <b>complex and changeable</b> conditions in the environment and <b>making decisions on changing them</b>
6	Managing <b>professional projects</b> in unpredictable conditions
5	<b>Taking part in the management of activities</b> in partially unpredictable conditions
4	Executing complex tasks and adapting own behaviour to the set guidelines in <b>changeable conditions</b>
3	Executing <b>complex</b> tasks and <b>adapting own behaviour to the set guidelines</b> in familiar conditions
2	Executing simple tasks under <b>direct and occasional professional supervision</b> in familiar conditions
1	Executing simple tasks under <b>direct and constant professional supervision</b> in familiar conditions

Reference levels	Responsibility
8	Taking <b>ethical and social responsibility for successful execution of research, socially beneficial results and potential social consequences</b>
7	Taking <b>personal and group responsibility for strategic decision-making</b> and successful execution and completion of tasks in <b>unpredictable</b> conditions, as well as social and ethical responsibility in executing tasks and for their results
6	Taking <b>ethical and social responsibility</b> for managing and evaluating personal and group professional development in unpredictable conditions
5	Taking <b>full</b> responsibility for <b>managing</b> , and <b>limited</b> responsibility for <b>evaluating</b> the development of activities in <b>partially unpredictable</b> conditions
4	Taking <b>partial</b> responsibility for <b>evaluating and developing activities</b> in <b>changeable</b> conditions
3	Taking responsibility for the <b>execution of complex tasks</b> in familiar conditions
2	Taking responsibility for the <b>execution of simple tasks</b> and <b>communication with others in familiar conditions</b>
1	Taking responsibility for the <b>execution of simple tasks in familiar conditions</b>

Levels	Knowledge		Skills			Autonomy	Responsibility
	Factual	Theoretical	Cognitive	Practical	Social		
8	Creating and evaluating new factual knowledge in a field of research that extends the frontier of knowledge	Creating and evaluating new theoretical knowledge in a field of research that extends the frontier of knowledge		Creating, analyzing and evaluating new proposed specialized movements and new methods, instruments, tools and materials	Creating new social and generally acceptable forms of communication and cooperation with groups of different affiliations and nationalities	Demonstrating personal professional and ethical authority and a sustained commitment to the research and development of new ideas and processes	Taking ethical and social responsibility for successful execution of research, socially beneficial results and potential social consequences
7	Evaluating factual knowledge at the frontier of knowledge in a field of work or study and at the interface with other fields, potentially providing basis for research	Evaluating theoretical knowledge at the frontier of knowledge in a field of work or study and at the interface with other fields, potentially providing basis for research	Abstract creative thinking (necessary in research for the generation of new knowledge and procedures and for the integration of different fields)	Performing complex movements and an advanced use of methods, instruments, tools and materials as well as developing complex methods, instruments, tools and materials required in research and innovation	Management and realization of complex communication and cooperation in different social groups and nations in unpredictable conditions	Managing complex and changeable conditions in the environment and making decisions on changing them	Taking personal and group responsibility for strategic decision-making and successful execution and completion of tasks in unpredictable conditions, as well as social and ethical responsibility in executing tasks and for their results
6	Evaluating factual knowledge in a field of work or study, some of which is at the frontier of knowledge in the field of work or study	Evaluating theoretical knowledge in a field of work or study, some of which is at the frontier of knowledge in the field of work or study	Abstract logical thinking (required to generate solutions to abstract problems) in unpredictable conditions	Performing complex movements and an advanced use of methods, instruments, tools and materials in unpredictable conditions as well as developing complex methods, instruments, tools and materials	Management and realization of complex communication and cooperation in different social groups in unpredictable conditions	Managing professional projects in unpredictable conditions	Taking ethical and social responsibility for managing and evaluating personal and group professional development in unpredictable conditions
5	Analyzing and synthesizing factual knowledge in a field of work or study, giving rise to the awareness of the frontier of knowledge in the field, and evaluating it	Analyzing and synthesizing theoretical knowledge in a field of work or study, giving rise to the awareness of the frontier of knowledge in the field, and evaluating it	Simple abstract creative thinking (required to generate solutions to abstract problems) in partially unpredictable conditions	Performing complex movements and an advanced use of methods, instruments, tools and materials as well as developing simple methods, instruments, tools and materials	Management and realization of complex communication and cooperation in a group in partially unpredictable conditions	Taking part in the management of activities in partially unpredictable conditions	Taking full responsibility for managing and limited responsibility for evaluating the development of activities in partially unpredictable conditions
4	Analyzing factual knowledge in a field of work or study	Analyzing theoretical knowledge in a field of work or study	Simple abstract logical thinking (required to select and apply relevant information in the course of execution of a series of complex specific tasks) in changeable conditions	Performing complex movements and a complex use of methods, instruments, tools and materials in partially changeable conditions	Realization of complex communication and cooperation in a group in changeable conditions	Executing complex tasks and adapting own behaviour to the set guidelines in changeable conditions	Taking partial responsibility for evaluating and developing activities in changeable conditions
3	Applying basic factual knowledge in the execution of tasks in a field of work or study	Applying basic theoretical knowledge in the execution of tasks in a field of work or study	Simple concrete creative thinking (required to select and apply relevant information in the course of execution of a series of complex routine tasks) in familiar conditions	A complex use of methods, instruments, tools and materials in familiar conditions	Realization of complex communication and cooperation in a group in familiar conditions	Executing complex tasks and adapting own behaviour to the set guidelines in familiar conditions	Taking responsibility for the execution of complex tasks in familiar conditions
2	Comprehending basic factual knowledge in the execution of simple tasks in a field of work or study	Comprehending basic theoretical knowledge in the execution of simple tasks in a field of work or study	Concrete logical thinking (required to apply relevant information in the course of execution of a series of simple tasks) in familiar conditions	A simple use of methods, instruments, tools and materials in familiar conditions	Realization of simple communication and cooperation with individual persons in familiar conditions	Executing simple tasks under direct and occasional professional supervision in familiar conditions	Taking responsibility for the execution of simple tasks and communication with others in familiar conditions
1	Memorizing general factual knowledge	Memorizing general theoretical knowledge	Simple concrete logical thinking (required to execute simple concrete tasks) in familiar conditions	Performing simple routine movements in familiar conditions	Following general rules of behaviour in familiar conditions	Executing simple tasks under direct and constant professional supervision in familiar conditions	Taking responsibility for the execution of simple tasks in familiar conditions

**Figure 5.1:** Integrated Table of Competences.

By symbolically differentiating between levels 1 and 2, the line is drawn between the general social demands put on all individuals (reference level 1) and the labour market demands (reference level 2 and up).

The line between levels 7 and 8 marks the difference between the known competences and the generation of socially and generally acceptable new competences, pushing the frontiers of the known competences.

By symbolically differentiating level 5 from levels 4 and 6, its bordering role is stressed. Namely, the levels above level 5 include competences partially or completely at the frontier of knowledge, whereas the competences of lower reference levels have not reached the frontiers, or even gained understanding of what these frontiers are. Level 5 thus encompasses the competences leading to an understanding of the known frontiers, without reaching them.

The presented reference level descriptors / indicators enable us to determine the complexity of some specific learning outcomes. The reference level of the entire qualification can only be determined after we have gained awareness of the volume of the learning outcome and the qualification.

### 5.5.2. Determining the Volume of Learning Outcome and Qualification

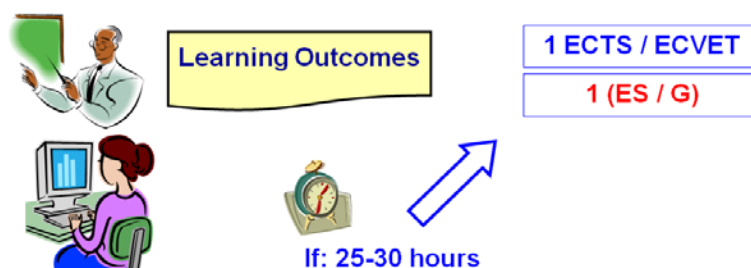
As a result of the Bologna Process, which has been implemented in higher education in Croatia for several years, this document does not have to dedicate too much room to the discussion of the topic of determining the volume of learning outcome and qualification. All the experience gained in the course of the implementation of

the Bologna Process is conducive to the understanding and development of the CROQF.

The volume of learning outcome denotes the amount of the competences gained and it is determined in terms of the totality of time spent on their acquisition. It has been agreed that in describing the qualifications typically gained through higher education, the relevant time unit is 25 to 30 hours (60-minute hours). The amount of competences acquired in that time is equal to 1 ECTS. Since an individual student may in practice take either more or less time for the acquisition of these competences, the term “average successful student” is introduced. In other words, the time that an average student takes is estimated, taking into account only those students that have successfully acquired the given competences, i.e. which have been positively evaluated, rather than those that are still acquiring or have not even begun acquiring those competences.

In vocational education and training, another measurement unit has been introduced: 1 ECVET, which also represents 25 to 30 hours of the total time needed to acquire certain competences, including organized classes, independent studying and validation of the acquired competences. The procedure for determining the volume of competences acquired through compulsory and grammar school (*gimnazija*) education is the same, but different measurement units are introduced (ES / G).

The total volume of the qualification is the sum of the volumes of all learning outcomes that the qualification comprises.



**Figure 5.2:** Determining the Learning Outcome and Qualification Volume.

### 5.5.3. Determining the Reference Level of Qualification

Eight complexity levels of learning outcomes have been introduced into the CROQF. Furthermore, additional sublevels have been set out for the qualification reference levels, resulting in the total number of 12 qualification reference levels and sublevels: 1; 2; 3; 4.1; 4.2; 5.1; 5.2; 6; 7.1; 7.2; 8.1; 8.2.

The reference level of a qualification is defined as the common level of all learning outcomes of the given qualification, determined by means of the level and volume of each learning outcome unit. The following table shows the conditions to be met

by a complete class of qualifications and learning outcomes in order for a certain qualification (of a complete class) to be allocated to a certain reference level:

Reference Level of Qualification	Volume of Complete Qualification (of a complete class)	Additional Requirements for Complete Qualification (of a complete class)
8.2	–	min. 3 years of research with outcomes of the 8 <sup>th</sup> level, resulting in papers in scientific journals with international peer review (entrance requirements: 7.1 reference level)
8.1	–	min. 1 year of research with outcomes of the 8 <sup>th</sup> level (entrance requirements: 7.1 reference level) (note: this is a partial class)
7.2	min. 60 ECTS	min. 60 ECTS on the 7 <sup>th</sup> level or higher (entrance requirements: 7.1 reference level)
7.1	min. 60 ECTS	min. 60 ECTS on the 7 <sup>th</sup> level or higher, and a total of min. 300 ECTS (entrance requirements: 6 <sup>th</sup> or 4.2 reference level)
6	min. 180 ECTS	min. 120 ECTS on the 6 <sup>th</sup> level or higher (entrance requirements: 4.1 or 4.2 reference level, depending on the qualification profile)
5.2	min. 120 ECTS	min. 60 ECTS on the 6 <sup>th</sup> level or higher (entrance requirements: 4.1 reference level)
5.1	min. 60 ECVET	min. 30 ECVET on the 6 <sup>th</sup> level or higher (entrance requirements: 4.1 reference level)
4.2	min. 240 ECVET or min. 240 (G)	min. 180 ECVET or 180 (G) on the 4 <sup>th</sup> reference level or higher (entrance requirements: 1 <sup>st</sup> reference level)
4.1	min. 180 ECVET	min. 120 ECVET on the 4 <sup>th</sup> reference level or higher (entrance requirements: 1 <sup>st</sup> reference level)
3	min. 60 ECVET	min. 60 ECVET on the 3 <sup>rd</sup> reference level or higher (entrance requirements: 1 <sup>st</sup> reference level)
2	min. 30 ECVET	min. 30 ECVET on the 2 <sup>nd</sup> reference level or higher (entrance requirements: 1 <sup>st</sup> reference level)
1	min. 120 (ES)	–

A specific qualification is allocated to a certain reference level only if all of the listed conditions have been met.

Let us take an example of a qualification presented by a list of 12 learning outcome units (LO-1, LO-2, ..., LO-12), with their respective reference levels and volumes:

Learning Outcome Units	Learning Outcome Reference Level	Learning Outcome Volume (ECTS)
LO-1	5	10
LO-2	5	8
LO-3	6	12
LO-4	5	5
LO-5	6	15
LO-6	5	8
LO-7	5	6
LO-8	6	14
LO-9	6	12
LO-10	7	8
LO-11	6	15
LO-12	5	7
TOTAL:		120
On 6 <sup>th</sup> reference level and higher:		76

The presented qualification would be allotted to the reference level 5.2.

#### 5.5.4. Determining the Profile of Learning Outcome and Qualification

Two dimensions of the learning outcome profile and the qualification profile have been introduced: the dimension marking the binary quality of qualifications (e.g. university and professional qualifications), and the field of study (e.g. mechanical engineering, shipbuilding, etc.).

The profile of learning outcomes and complete qualifications shall be determined and adequately named by working groups. For the sake of transparency, both profile dimensions shall be reflected in the profile name, as well as the vertical classification of qualifications.

#### 5.6. Depicting Learning Outcomes

As it has already been explained, learning outcomes have four basic properties, which need to eventually be validated (measured or assessed). In order to achieve that, a transparent way of depicting learning outcomes has been introduced, clearly reflecting two properties: the reference level and the profile. Learning outcomes need to be depicted in an unambiguous way, which clearly reflects how they are validated (measured and assessed).

There are numerous examples of learning outcomes being depicted in sentences like: “Upon the completion of the learning process, the student will...”, followed by action verbs and relevant contents. However, since the CROQF integrates all

reference levels, a simpler way of depicting learning outcomes is proposed, with a minimum number of rules:

- It is, for example, **unnecessary to start the depiction by the repetition of phrases like:** “*Upon the completion of the learning process, the student will...*”, or “*The individual will...*”, or similar. **It may suffice to state it once** and signal that it refers to the entire learning outcome unit, or it can be assumed and therefore needs not be expressly stated;
- Whenever possible, learning outcomes are **depicted in terms of precise action verbs** followed by the relevant content. For example, “*(The individual) will list the basic properties of the learning outcome ...*”;
- Learning outcomes must contain **conditions in which the activity takes place** (autonomy conditions, temporal and spatial restrictions relevant to the performance of the given activity and the associated responsibility). For example, “*(The individual) will list the basic properties of the learning outcome ... with occasional use of the Textbook*”, “*... managing the activities of the working groups and taking responsibility for the execution and successful results in the agreed timeframe ...*”;
- It is generally beneficial **to use one verb for one learning outcome**, except in the cases when the complexity of specific learning outcomes needs to be depicted additionally;
- A learning outcome that includes verbs **belonging to higher complexity levels implicitly includes the learning outcomes and the respective verbs of lower complexity levels**, that, of course, refers to the same content (i.e. the learning outcome profile);
- The depiction of a learning outcome must be **clear and understandable for the wider public**, rather than only experts;
- A unit of learning outcomes should preferably consist of **five to ten** learning outcomes.

Such learning outcomes clearly depict how the individual will demonstrate the acquired competences, in what conditions they will be demonstrated during the validation or the assessment process, and in the future, at one’s workplace, within continued education or on other occasions.

In depicting learning outcomes, the activities of the individual need to be perceivable, completed and measurable (who performs the activity, what it consists of, what are the temporal, spatial and other conditions, what results need to be achieved, and what is the associated responsibility).

Learning outcomes have been well depicted if adequate and practical tasks for their assessment are easy to develop.

For quicker recollection, learning outcomes are said to have to be SMART:

- Specific
- Measurable
- Agreed
- Relevant
- Timely.

Learning outcomes should not be long and elaborate, and comparison should be avoided (better, higher, etc.).

It is extremely difficult to express the volume, and even the profile, of each specific learning outcome. Learning outcomes are therefore organized in groups, i.e. units of learning outcomes. The values of the volume, the profile (even its code), reference level, and the methods for determining quality (the examination and criteria) will explicitly be stated for the units of learning outcomes. Learning outcomes are conducive to a better understanding of competences acquired upon the completion of learning, thus steering and guiding students in the process of learning. They are also helpful to teachers in organizing their classes. Learning outcomes will also help employers and others in gaining insight into what is acquired. For the institutions that will evaluate the quality of the teaching and learning process and the validation of learning outcomes, learning outcomes are also of great assistance.

For each learning outcome, typical assignments for validation and assessment need to be exemplified, and the form of examination and the types of assignments to be used described. The assignments and the form of examination must demonstrate the respective learning outcomes as closely as possible. Some examples are: close tests, either/or and multiple choice tests, matching and ranking tests, essays, and other types of assignments. Although neither the learning outcome number nor their structure depict the learning outcome volume, they still give an idea of what this volume is. It is thus important to pay special attention to the depiction of the volume.

There are two basic methods of validating learning outcomes (arising from the two purposes of validation) – the relative criteria-based and the absolute one. In the relative criteria-based validation, the individual is expected to meet the criteria and to compete with others; whereas in the absolute validation, the student is given a grade regardless of the results of other students. Validation is a topic that needs to be further elaborated in another book, yet it is not too early to give it some thought at this point.

### 5.6.1. Action Verbs

The level of complexity of learning outcomes is depicted by means of precise action verbs, in addition to the conditions in which these activities are conducted. A list of frequently recommended verbs is given below (ranked by complexity levels, from the lowest to the highest):

- **MEMORIZING (remembering and recalling information)** identify, name, express / state (a definition / rule / law), write out, recite, point, reproduce, recognize / select, recall, rank, list, remember (**NOT: define, memorize**);
- **COMPREHENDING (understanding, organization skills, reading and listening comprehension, etc.)** exemplify, discuss, group, identify, select, calculate, express (in own words), report, classify, explain (the main idea), describe, show, predict, paraphrase, recognize, distinguish, consider, summarize, locate, categorize, compare;
- **APPLYING (using a general concept to solve a problem)** demonstrate, illustrate, interpret, interview, plan, investigate, choose, produce, calculate, infer, use, select, discover, show, connect, predict, translate, present, collect,



adjust, apply (a rule / law, etc.), carry out, interpret, allocate, solve, handle, sketch, employ, **(NOT: exercise, exemplify)**;

- **ANALYZING (separating into elements to apply it on new information)** analyze, identify (motives, reasons, causes, consequences), test, select, calculate, categorize, comment, draw, draw a diagram (graph, map), match, re-examine, estimate, recalculate, verify, separate into elements, distinguish, differentiate, solve, sketch, sort, contrast, compare, determine (similarities / differences), **(NOT: experiment, discuss)**;
- **SYNTHESIZING (linking together elements or ideas into a whole, expressing originality)** design, formulate / shape, generalize / universalize, generate, integrate, build, classify, combine, construe, produce, write, regulate, organize, conceive, discover, plan, set a hypothesis, link, propose, predict, reorganize, present, prepare, arrange, develop, compose (a suggestion / solution), compose music, manage, regulate, lead, conclude;
- **EVALUATING / VALIDATING (assess the value of something / someone)** support opinion with arguments, choose option, measure, critically assess, defend attitude, evaluate, justify, select, corroborate, confirm, predict, re-examine, recommend, estimate, make judgement, rank, self-assess, self-evaluate, compare, determine, appraise, validate, conclude;
- **CREATING / GENERATING (something new)** the same as SYTHESIZING, plus: invent, create.

#### Examples of unsuitable verbs:

- **immeasurable:** be trained, be capable, have knowledge, have basic knowledge, have strong aptitude for, learn, gain command of, undergo training, increase awareness of, achieve, be familiar with, apply knowledge, use factual knowledge, understand, develop needs, familiarize with, acquire, understand that the same event and occurrences may be interpreted differently, adopt fundamental principles, gain knowledge / skills / attitude, memorize, know, and similar immeasurable verbs.

### 5.7. Questions for Discussion and Reflection

What two dimensions of the quality of qualifications / learning outcomes have been introduced?	Personal and institutional.
What do we use to determine the level of learning outcomes?	Level indicators (descriptors).
What values do we attribute to learning outcome levels?	Eight reference levels: from 1 to 8.

What values do we attribute to the reference levels of qualifications?

Twelve reference levels and sublevels: from 1 to 8.2.

List the groups of action verbs introduced for the purposes of depicting learning outcome complexity levels, from the simple to the more complex.

Remembering, comprehending, ..., creating. See 5.6.1.

Give examples of unsuitable verbs.

See 5.6.1.

## 6. Qualification Standard

The Croatian Qualifications Framework has the aim of coordinating and linking together all the elements of the qualifications system, taking into consideration individual and social interests. For that purpose, the CROQF introduces a set of criteria that form the basis of acceptable transparency, access, progression, award, and quality of qualifications. The CROQF ensures the transparency of coordination and cross-referencing among all elements of the qualifications system, by outlining the role and responsibility of each element.

New documents are required to provide for transparent introduction of the role and responsibility of each element of the qualifications system, including an overview of the labour market, individual and social demands and the ways to meet the conditions to fulfil those needs. One of these documents is the so called qualification standard, the contents of which are set out below. The qualification standard is a document that introduces educational programmes for the acquisition of specific qualifications in a transparent, simple and responsible way.

The contents of the qualification standard (that may be divided into basic properties: reference level, volume, profile, and quality):

0. Qualification standard code (the meaning and the procedure for assigning the code will be introduced; it will contain information on the reference level, profile, and class / volume of qualification; the code will be stable in its use);

1. Basic properties of qualification:

- 1.1. Name of qualification;
- 1.2. Reference level of qualification;
- 1.3. Minimal volume of qualification, ECTS / ECVET / (ES / G);
- 1.4. Class of qualification (full / partial);

2. Elements of qualification:

- 2.1. Competences and learning outcomes (short list and description of competences and learning outcomes);
- 2.2. Units of learning outcomes (name; code; reference level; volume; competences and learning outcomes; conditions for the acquisition of competences; assessment and validation (acceptable forms of learning and the possibility of external evaluation, grading methods); an example of assessment and validation; types of units, i.e. if the given unit belongs to the compulsory central part of a qualification or to the optional one, is support required or is it a part of key competences);

3. Elements of qualification quality assurance:

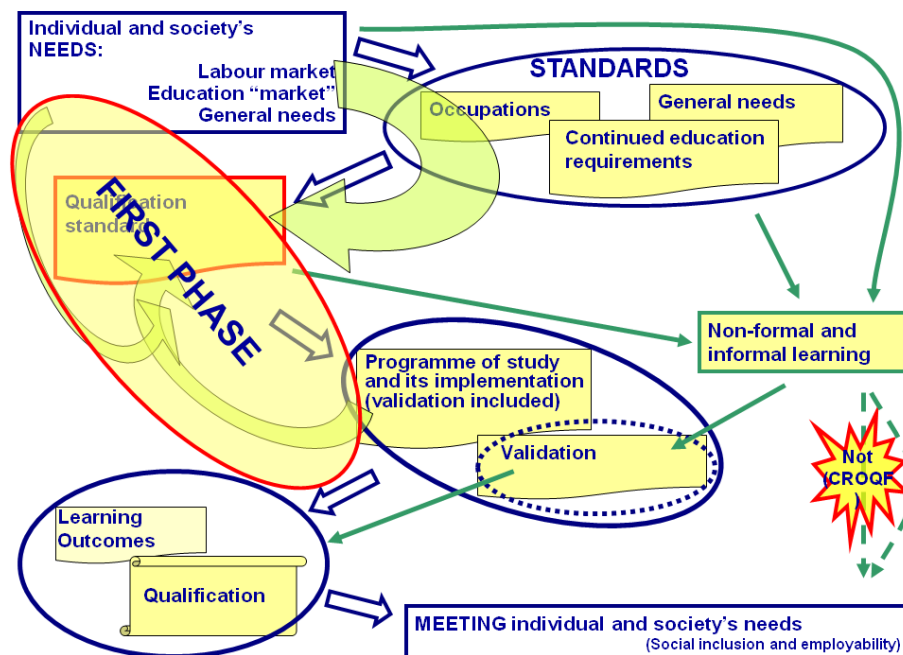
- 3.1. Requirements for entering into the qualification award process (entrance requirements);

- 3.2. Justification for the introduction of qualification (overview of labour market, individual, and social demands as well as those for qualifications, including the requirements of continued education);
  - 3.3. Role of qualification (with regards to continuation of education, labour market, etc.);
  - 3.4. Competent bodies that issue a certificate on the acquired qualification (e.g., grammar schools (*gimnazija*), universities, schools of professional higher education, etc.);
  - 3.5. Deadline for qualification acquisition;
  - 3.6. Required resources (estimate of resources required for qualification acquisition; information on the resources an individual needs to invest towards the acquisition of a specific qualification, e.g. time, space, money; household resources and other funds are not to be left out);
4. Elements of the qualification standard quality assurance:
    - 4.1. Authors of the qualification standard proposal and the date of proposal;
    - 4.2. Competent authority for approving the qualification standard and the date of approval.

## 7. Procedure for the Development of Qualification Standard

The qualification standard is developed on the basis of the occupational standard and other similar documents that are the result of a clear overview of the need for specific qualifications. Those needs generally refer to labour market needs and other needs of the individual and society for employment or continued education.

It is advisable that the new occupational standards reflect not only the current labour market needs, but also the short- and long-term forecasts. The participation of entire society and an extensive analysis of the current situation and future trends are required for such a comprehensive and systematic approach.



**Figure 7.1:** Development of the Qualification Standard in the 1<sup>st</sup> Phase of the Implementation of the CROQF.

In the first phase of the implementation of the CROQF, qualification standards will be developed for the qualifications currently awarded within the existing formal education programmes in Croatia. In the following phases, standards will be developed for the qualifications for which a need is recognized in the near future. An extensive analysis of the labour market and society will be required for this purpose, which will then be incorporated in occupational and other standards.

The existing educational programmes and other documents are sufficient for the first phase of the CROQF implementation, whereas the second phase will require the development of additional educational programmes.

The content of the occupational standard is given below. This is the first document to be developed in the second implementation phase. The contents of other documents will be provided in other texts on the CROQF.

## 7.1. Occupational Standard

The contents of the occupational standard:

0. Occupational standard code (the meaning and the procedure for assigning the code will be introduced; it will contain information on all the basic properties of the occupation; the code will be stable in its use);
1. Basic properties of occupation:
  - Name of occupation;
  - Reference level of applicable qualifications, additional requirements;
  - Class of applicable qualifications (complete / partial);
2. Elements of occupation:
  - Description of occupation (jobs within an occupation; types of jobs within an occupation; work places for the jobs within an occupation; types of companies offering the jobs; description of desirable competences; specific legal requirements, guidelines for the development of the occupation);
  - Description and name of all main responsibilities, activities, operational procedures and required competences;
  - Professional development opportunities;
3. Elements of the occupational standard quality assurance:
  - Justification of the introduction of the occupational standard (overview of the labour market, individual and society's needs);
  - Period of validity of the occupational standard (when is it necessary to carry out a new analysis and compile a new occupational standard);
  - Authors of the occupational standard proposal and the date of proposal;
  - Competent authority for approving the occupational standard and the date of approval.

## 8. Trainers of Working Groups

The information on learning outcomes laid down in this book will be useful in developing self-evaluation questionnaires and tasks. Here we are giving the example of trainers of working groups, who will have specific tasks in relation to working group activities in the first phase of the implementation of the CROQF. Other activities related to further implementation of the CROQF will be described in future texts on the CROQF.

### 8.1. Goals of Trainers

The goal of the working group trainers is to prepare working group members for high-quality development of the qualification standard in the first phase of the implementation of the CROQF. The preparation involves a brief initial training led by two or more trainers and subsequent immediate assistance in the process of the qualification standard development.

### 8.2. Activities and Tasks of Trainers

The activities and specific tasks expected from the trainers are:

- Assist working group members in understanding the basics of the CROQF;
- Support and monitor the process of qualification standard development, including the process of development of occupational standards, when necessary;
- Support and monitor working groups up to the development of the qualification standard, including the development of the occupational standard, when necessary.

### 8.3. Learning Outcomes of Trainers

This book provides for the acquisition of learning outcomes which may be divided in three learning outcome units:

1. The basics of the CROQF (7<sup>th</sup> level; 5 ECTS; 80% training attendance; written assessments)
  - Explain the role of the CROQF and its relation to the EQF, with occasional use of the written material;
  - Explain the aims of the CROQF and the CROQF development principles, with occasional use of the written material;
  - Find the information on the CROQF development activities and results

- and describe them, with occasional use of the written material;
  - List and explain the relevance of other related activities (the Bologna Declaration, Lisbon Strategy, Copenhagen Declaration, European Qualifications Framework, Secondary School Leaving Exam, Croatian National Educational Standard, National Framework Curriculum, Vocational Education Strategy, Recognition of Foreign Qualifications, Quality Assurance), with occasional use of the written material;
  - (Enumerate, explain, compare, use, analyze, and) evaluate the CROQF-related terms and their properties, in the course of the training of working group members and the teamwork on the qualification standard and the occupational standard development;
2. Qualification Standard (7<sup>th</sup> level; 12 ECTS; 80% training attendance; written assessments and an assignment)
- Explain the elements of the occupational standard, with occasional use of the written material;
  - Explain the elements of the qualification standard, with occasional use of the written material;
  - Apply, analyze and manage the occupational standard development procedure, and evaluate examples;
  - Apply, analyze and manage the qualification standard development procedure, and evaluate examples;
3. Basics of the training of working group members (5<sup>th</sup> level; 3 ECTS; demonstration and evaluation of the management of training activities)
- Demonstrate tasks and lead working group members with the aim of learning outcome acquisition (Baseline of the CROQF, Qualification Standard);
  - Evaluate one's own work and that of the working group members.



## 9. References

1. Baseline of the Croatian Qualifications Framework, the Government of the Republic of Croatia, 2007
2. Appendices to the Baseline of the Croatian Qualifications Framework, the Government of the Republic of Croatia, 2007
3. The European Qualifications Framework for Lifelong Learning, European Commission, 2008
4. A Framework for Qualifications of The European Higher Education Area, Ministry of Science, Technology and Innovation, Bologna Working Group on Qualifications Framework, Copenhagen, 2005
5. Key Competences for Lifelong Learning – European Reference Framework, European Commission, 2007
6. Sjur Bergen, Qualifications – Introduction to a Concept, Council of Europe Publishing, Strasbourg, 2007
7. “Human Resources Development” Operational Programme, Central Office for Development Strategy and Coordination of EU Funds – [www.strategija.hr](http://www.strategija.hr)

# 10. Appendix

## 10.1 Instructions for the Qualification Standard Development in the First Phase of the CROQF Implementation

### 0. Qualification standard code

The code comprises information on the reference level, profile and class / volume of qualification. The code must be stable in use. The following documents will be used:

- National Classification of Occupations  
(<http://narodne-novine.nn.hr/clanci/sluzbeni/342106.html> and table:  
<http://narodne-novine.nn.hr/clanci/sluzbeni/dodatni/378415.pdf>);
- National Classification of Economic Activities 2007  
(<http://narodne-novine.nn.hr/clanci/sluzbeni/298306.html>).

The codification will be conducted by a special body / group, and not by the working groups.

### 1. Basic Properties of Qualification

1.1. Name of Qualification. The working groups propose the names by sectors, keeping in mind that they must contain information on the reference level, profile and class / volume. Use available documents:

- National Classification of Occupations  
(<http://narodne-novine.nn.hr/clanci/sluzbeni/342106.html> and table:  
<http://narodne-novine.nn.hr/clanci/sluzbeni/dodatni/378415.pdf>);
- National Classification of Economic Activities 2007  
(<http://narodne-novine.nn.hr/clanci/sluzbeni/298306.html>);
- The Act on Academic and Professional Titles and Academic Degree  
(<http://narodne-novine.nn.hr/clanci/sluzbeni/329375.html>);
- Rectors' Conference: List of academic titles and degrees and their abbreviations  
(<http://narodne-novine.nn.hr/clanci/sluzbeni/339031.html>);
- Council of Polytechnics and Schools of Higher Professional Education and the Rectors' Conference: List of professional titles and their abbreviations  
(<http://narodne-novine.nn.hr/clanci/sluzbeni/339032.html>);
- Council of Polytechnics and Schools of Higher Professional Education and the Rectors' Conference: Harmonization of professional titles  
(<http://narodne-novine.nn.hr/clanci/sluzbeni/339033.html>);
- Plans and programmes of study:
  - Plans and programmes of study for grammar and vocational schools  
(<http://www.ncvvo.hr/drzavnamatura/web/public/dokumenti>);
  - Programmes of study within the higher education system  
(<http://mozvag.srce.hr/preglednik/pregled/index>).

1.2. Reference Level of Qualification. The reference level is in compliance with the CROQF.

- See *Croatian Qualifications Framework – Introduction to Qualifications*, unit 5.5.3;
- Use available plans and programmes of study, as specified under 1.1 hereof.

1.3. Minimum Qualification Volume. Together with the minimum volume of a specific qualification expressed in credits (ECTS / ECVET or ES / G), additional requirements for the complete qualification are included, i.e. distribution of learning outcomes by complexity levels.

- See *Croatian Qualifications Framework – Introduction to Qualifications*, unit 5.5.3;
- Use available plans and programmes of study, as specified under 1.1 hereof.

1.4. Class of Qualifications. The class can be complete or partial. In the first phase of the qualification standard development, the working groups enter only the designation “Complete”.

- See *Croatian Qualifications Framework – Introduction to Qualifications*, unit 5.5.3;

## 2. Elements of Qualification

2.1. Competences and Learning Outcomes. A list of competences and learning outcomes assumed under a specific qualification is compiled, with the maximum number of 25. Competences and learning outcomes should be written in such a way that they are linked together in groups and units of learning outcomes, and linked to profile and the next higher level. Items 2.1 and 2.2 should be written cyclically until a satisfactory result is achieved. In case of difficulties in depicting competences and learning outcomes within the stated number, trainers or other experts should be consulted.

2.2. Units of Learning Outcomes.

- The working group obtains the learning outcome unit code from the Operational Team through the trainer.
- In the first phase of the qualification standard development, the names of the learning outcome units are taken from the valid plans and programmes of study (see 1.1 herein). In case different programmes of study name the same /similar subjects differently, the working group proposes the most adequate name (e.g., some learning outcome unit may be acquired through these subjects: Physics, Basics of Physics, and Introduction to Physics). For learning outcome units that do not fall within the area of your working group (e.g., English language and the working group for Tourism), the trainer of the relevant working group should be contacted (e.g. Philology) and the trainer of the 26<sup>th</sup> working group informed about it.
- Learning outcome levels should be determined in compliance with the level indicators / descriptors (see *Croatian Qualifications Framework – Introduction to Qualifications*, unit 5.5.1).
- Learning outcome unit volume should be written in accordance with the instructions set out in the book *Croatian Qualifications Framework – Introduction to Qualifications*, unit 5.5.2).
- Competences and learning outcomes should be written in accordance with the instructions set out in the book *Croatian Qualifications Framework –*

*Introduction to Qualifications*, unit 5.6).

- Use the available plans and programmes of study, as specified under 1.1 of these Instructions.
- Conditions for the acquisition of competences in formal education involve institutions with organized classes and teachers. For the learning outcome units that do not fall within the area of your working group (e.g., English language and the working group for Tourism), the trainer of the relevant working group should be contacted (e.g. Philology) and the trainer of the 26<sup>th</sup> working group informed about it.
- Assessment and validation involve: i) institutions where the assessment and validation are conducted, and ii) the assessors (note: the education providers are not necessarily the assessors). For the learning outcome units that do not fall within the area of your working group (e.g., English language and the working group for Tourism), the trainer of the relevant working group should be contacted (e.g. Philology) and the trainer of the 26<sup>th</sup> working group informed about it.
- Under the *Examples of assessment and validation* give an example of a question (or other form of assessment) for each learning outcome. For each competence, the method for the validation of the acquisition of the given competence should be provided.
- Under the entry *Type* in the list of learning outcome units, it should be stated whether the given learning outcome unit belongs to: i) the central part of the qualification, ii) the elective part, iii) required support for the qualification, or iv) key competences.

### **3. Elements of the Qualifications Quality Assurance**

3.1. Requirements for Entering the Process of Qualification Acquisition. Information on the qualification level requirements and their acceptable profiles.

- Consult the General Entrance Requirements ([http://personal.unizd.hr/~mdzela/hko/HKO\\_Upute\\_OpciUvjetiPristupanja.pdf](http://personal.unizd.hr/~mdzela/hko/HKO_Upute_OpciUvjetiPristupanja.pdf));
- Use the available plans and programmes of study, as specified under 1.1 of these Instructions.

3.2. Justification of Qualification Introduction. You should enter the information on the needs and demands of the labour market, individuals and society for qualifications, including the requirements of continued education. The available documents should be used:

- Official figures of the Croatian Employment Service ([www.hzz.hr](http://www.hzz.hr));
- Official figures of the Central Bureau of Statistics ([www.dzs.hr](http://www.dzs.hr));
- Available plans and programmes of study, as specified under 1.1 of these Instructions, and other when possible.

3.3. Role of Qualifications. The recognized role considering the continuation of education, labour market etc. is entered. Information on the opportunities of continued education, employment etc. should also be provided, in consultation with partners. The available documents should be used:

- National Classification of Occupations (<http://narodne-novine.nn.hr/clanci/sluzbeni/342106.html> and table: <http://narodne-novine.nn.hr/clanci/sluzbeni/dodatni/378415.pdf>)
- National Classification of Economic Activities 2007

- (<http://narodne-novine.nn.hr/clanci/sluzbeni/298306.html>);
- Plans and programmes of study, as specified under 1.1 of the Instructions.
- 3.4. Competent Authorities that Issue Certificate on Acquired Qualification. Supply the information on the types of competent authorities that issue the certificate on the awarded qualification.
- 3.5. Deadline for Qualification Acquisition. Provide the date by which the acquisition of a qualification is possible.
- 3.6. Required Resources. Estimate all the resources required for the acquisition of a qualification, i.e. time, space and money. Household and other resources should not be left out.

#### **4. Elements of the Qualification Standard Quality Assurance**

- 4.1. Authors of the Qualification Standard Proposal. List the names of the individuals and the institutions that drafted the qualification standard proposal and the place and date of the final proposal.
- Trainers and members of working groups, and other experts, should analyze the representation of all relevant partners in their respective working groups. A group should include:
    - representatives of the labour market and trade unions;
    - representatives of all educational levels;
    - representatives of students / pupils;
    - representatives of partners in charge of quality assurance (competent ministries, agencies, national councils and other expert bodies).
- 4.2. Competent Authority for Approving the Qualification Standard. List the names of individuals and institutions that have approved the qualification standard and the date of approval.

In general, other documents should be used as well, such as:

- Act on Scientific Activity and Higher Education;
- Act on Vocational Education and Training;
- Act on the Recognition of Foreign Educational Qualifications;
- Primary and Secondary Education Act;
- Adult Education Act;
- Act on Crafts and Trades;
- Bylaw on Science and Art Areas, Fields and Branches;
- Bylaw on the Secondary School Leaving Examination;
- Bylaw on the Crafts and Trades Master's Exam and the Vocational Qualification Exam;
- Bylaw on Associated Trades and Crafts Education and Training and on Rights, Obligations, Monitoring, Evaluation and Assessment of Apprentices;
- National Pedagogical Standard for Secondary Education;
- National Pedagogical Standard for Pre-School Education;
- National Pedagogical Standard for Primary Education.

and other documents to be developed by the Operational Team.