Methodological Guidebook

Design of qualifications based on learning outcomes

Competence standards

Training standards

National Agency for Qualification and Vocational Education and Training (ANQEP, I.P.) – Division for the Management of the National Catalogue of Qualifications (DGCNQ)

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TITLE

Methodological guidebook – concept of qualifications based on learning outcomes

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OPENING NOTE

The economic crisis and the growing number of the unemployed all over Europe has raised awareness to the fact that it is no longer possible to work in vocational education and training without the involvement of representatives from the business world. If education and training must prepare for a successful transition to the labour market, then we need to understand what can improve this transition and in particular help maintain the status of being "employable".

This condition is today intrinsically linked to the concept of competence. Being employable means being competent. Competences do not remain the same either. They have been changing over time with the alterations ascertained in the labour market. For example, today it is more relevant to be competent in terms of interpersonal relationships and aspects associated with communication, teamwork, resilience and adaptability than ten years ago. In the future, due to new labour market demands, the most relevant competences may be different. For this reason, it is fundamental that Education and Training Systems are able to provide young people and adults with competences that can always adjust to what the labour market values.

This adjustment is not an easy task, in particular because it presupposes that Education and Training systems are able to anticipate what will be required by the labour market when students/trainees complete their studies. Therefore, it is no surprise that there is an increasing concern in working, at curriculum level, on technical competences and others of a broader nature – known as soft skills – that are much more associated with attitudes and which, according to recent studies, are those that confer a greater advantage in keeping a job.

In addition to this adjustment (that presupposes an increasingly tighter articulation between school and companies, for example, by enhancing work-based learning or through a greater involvement of company representatives in the design of curricula), it is also essential that the qualifications produced by Education and Training Systems are readable by employers. In other words, employers must be able to understand what to expect from someone who holds a given qualification. Basically, it is important to answer the question: "What can a youth or an adult do with this qualification?" And considering that today the labour market is not confined to one's own country, to be able to improve one's employability it is necessary that the answer to that question is obvious for an employer from the same country as well as from any other Member State.

Then, what can be done for qualifications to gain this transparency and legibility all over Europe?

The answer to this question began to be thought about several years ago with the adoption of a European Qualifications Framework (EQF) that all Member States should use as a reference when building their National Qualifications Frameworks. Having the EQF as reference, Portugal built its NQF, which has been in force since 1 October 2010.

Since its creation, this framework addressed the integration of descriptors for (8) different qualification levels, based on knowledge, skills and attitudes. This means that the bases were created for learning processes to be defined based on what is expected to be achieved at the end of them (known as "learning outcomes").

However, the qualifications will not gain the readability they need to have by the employers if the learning outcomes are only set out in levels or degrees of complexity in terms of knowledge, skills and attitudes, associated with the different qualification levels that our education and training system allows

one to achieve (from level 1 – corresponding to the 2nd cycle of basic education up to level 8 - doctorate).

It is fundamental and urgent that the learning outcomes are visible in the qualifications themselves. Thus, in 2007, when the National Catalogue of Qualifications was created (the strategic management instrument of non-higher qualifications that award double certification), it was immediately defined that the qualifications to be integrated in this instrument should be described in learning outcomes, in line with what had been happening with adult education and training, covered by the primary and secondary education and training standards – processes of recognition, validation and certification of competences; adult education and training courses and certified modular training.

Nevertheless, to be able to reach this stage it would be necessary to draw up a methodology that would lead to the construction of these new curricula, giving less importance to length, contents and teaching methods of training programmes (inputs) and highlighting learning outcomes, especially as a starting point (outputs).

In practical terms this turning point implies a substantial change in what has been done up to now in terms of design of qualifications.

This is the major contribution of this methodological guidebook, which results from a period of reflection with a large group of stakeholders from different economic sectors and areas of activity, within the scope of the work done by the National Agency for Qualification and Vocational Education and Training, as National Coordination Point of the European Qualifications Framework.

We hope that this Guidebook will represent a turning point in the design of qualifications, by establishing a new paradigm, with more effective results and with a greater degree of readability for all: young people, adults and employers.

Gonçalo Xufre Silva

Director of the National Agency for Qualification and Vocational Education and Training

TABLE OF CONTENTS

FIGURES

TABLES

LIST OF ABBREVIATIONS

ANQEP	Agência Nacional para a Qualificação e o Ensino Profissional, IP – National Agency for Qualification and Vocational Education and Training
CNQ	Catálogo Nacional de Qualificações – National Catalogue of Qualifications
CQEP	Centro para a Qualificação e o Ensino Profissional – Centre for Qualification and Vocational Education
CSQ	Conselho Setorial para a Qualificação – Sector Council for Qualification
ECVET	Sistema Europeu de Créditos de Ensino e da Formação Profissionais – European Credit System for Vocational Education and Training
EQAVET	Quadro de Referência Europeu de Garantia da Qualidade para a Educação e Formação Profissional (EFP) – European Quality Assurance Reference Framework for Vocational Education and Training
EQF	Quadro Europeu de Qualificações – European Qualifications Framework
NQF	Quadro Nacional de Qualificações – National Qualifications Framework
RVCC	Reconhecimento, Validação e Certificação de Competências – Recognition, Validation and Certification of Competences
SNQ	Sistema Nacional de Qualificações – National Qualifications System
UC	Unidade de Competência – Unit of Competence
UFCD	Unidade de Formação de Curta Duração – Short-Term Training Unit

FRAMEWORK

This Methodological guidebook is an instrument to support the design of qualifications based on learning outcomes to be integrated in the National Catalogue of Qualifications (CNQ).

The use of an approach to qualifications based on learning outcomes is an idea which has gained ground in Europe (cf. Cedefop, 2009), surpassing the use of approaches that focus on length, contents and teaching methodologies to design qualifications. This approach has become the basis for vocational education and training standards, curricula, assessment criteria, qualification descriptors and level descriptors in national qualifications frameworks.

A number of factors have contributed towards this shift in paradigm that demonstrate the real potential effect of this approach, such as: the better match of qualifications with labour market needs; a greater opening of education and training systems in recognising learning, regardless of the context in which it is acquired; greater attention to what the learner knows, understands and is able to do, irrespective of the learning process s/he has followed; the use of a common language which allows a more fluid dialogue and a better understanding of learning between varied actors in the system; and the existence of clearer and more explicit qualification standards.

Although there is no general consensus of the description and interpretation of learning outcomes, all European processes and instruments recently developed, namely the European Qualifications Framework (EQF) and the European Credit System for Vocational Education and Training (ECVET), are based on this approach.

The Recommendation of the European Parliament and the Council on the establishment of the EQF (23 April 2008) explicitly sets out that the Member States shall use "(…) an approach based on learning outcomes to define and describe qualifications" and to promote the validation of informal and non-formal learning.

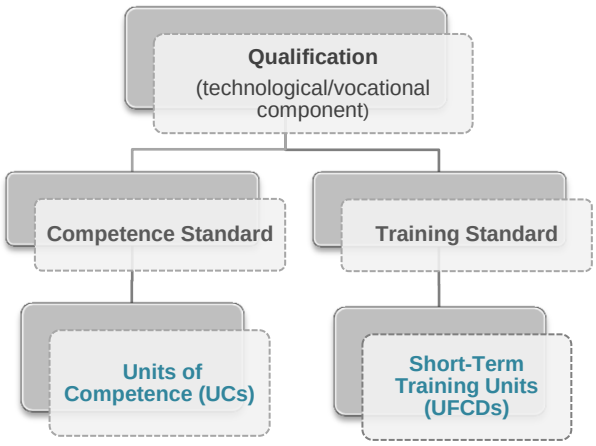
In turn, ECVET considers the organisation of qualifications in units of learning outcomes as a pre-requisite for its implementation. This definition of qualifications in units of learning outcomes shall therefore guarantee that learning outcomes leading to acquiring a qualification are clearly identified and described in order to allow for a mutual understanding of qualifications.

But, since at international level there is an environment in favour of the adoption of approaches based on learning outcomes, also at national level, national qualifications systems, through implementing national qualifications frameworks, increasingly tend to adopt this approach.

In Portugal, the National Qualifications System (SNQ) (Decree-Law no. 396/2007, of 31 December) states that the CNQ shall organise competence-based qualifications "by identifying for each qualification the corresponding training competence and training standards, and the qualification level in accordance with the National Qualifications Framework". This development outcomes from the identification of the competences associated with each qualification and with the construction and implementation process of the National Qualifications Framework (NQF), as it adopts a methodology based on learning outcomes to describe each level of qualification, being each level descriptor organised in "knowledge, skills and attitudes" (Ordinance no. 782/2009, of 23 July).

The CNQ, as a strategic instrument for non-higher qualifications, aims at the progressive integration of qualifications based on learning outcomes, identifying for each qualification a competence standard and a training standard (figure 1) in its technological (vocational) component.

Figure 1. Qualification Standards



The integration of qualifications based on learning outcomes in the CNQ is a shift in paradigm in the vocational education and training system for the following reasons:

- There is a **single standard** to respond to the training process (technological component) and to the process of Recognition, Validation and Certification of vocational Competences for each qualification. In other words, competence standards are used for double certification vocational education and training provision (NQF qualification levels 2, 4 and 5) of the SNQ and for Vocational RVCC processes;
- **Quality** is improved as there are performance criteria in the Units of Competence (UCs) of the competence standard, as well as assessment criteria in the Short-Term Training Units (UFCDs) of the respective training standard;
- The **readability of qualifications** for the labour market is increased. This is, the learning outcomes confer increased precision to what the holder of a qualification can do, knows and understands, by using a clearer and more explicit language, thus getting the education and training system closer to the companies;
- It increases **readability for the learner** because the use of learning outcomes expresses what needs to be demonstrated when a trainee is evaluated (the result of his/her learning);
- It allows and facilitates the construction of a **coherent credit system**, which is fundamental for the transfer between learning contexts and for the accumulation and capitalisation of learning outcomes.

The integration of qualifications based on learning outcomes focuses on outputs and not on inputs (length, contents and methods of teaching to design qualifications): learning outcomes will be the centre of the management of the training provision and shall be understood as the individual's resources for competent action – and competences will be the competent way to act.

This document seeks to provide the different SNQ stakeholders with a Methodological Guidebook that enables new qualifications to be designed and the existing ones to be revised based on learning outcomes.

The Methodological Guidebook is divided into 3 parts:

- The first part covers the main forms of identifying and mapping UCs. This phase before the design of the competence standards is an important moment to outline the field of observation (of the sector and the varied vocational areas, among others), because it is the combination of these UCs that shapes the qualifications;
- The second part explains the design of competence standards, i.e., it defines concepts, presents the constitutive elements, the basic principles and technical requirements of the UCs, as well as the various stages in the design of a UC. This part also presents the different types of UC and the possible configurations of competence standards;
- The third part focuses on the design of training standards. It targets the definition of the constitutive elements, basic principles and technical requirements of the UFCD and on the respective development stages. Lastly, the types of UFCD and the configuration of their corresponding training standards are explained.

For better clarification and demonstration of the content of the Methodological Guidebook, examples are included in each of its constitutive parts. The full examples regarding the design stages of a UC and of a UFCD may be consulted in the annexes.

1. UNITS OF COMPETENCE: THE WAY TO QUALIFICATIONS

Today the identification and anticipation of the supply and demand of qualifications is considered strategic by employers, business activity sectors and varied regions.

For this reason, forecasting methods have become a multidisciplinary field that does not only include planning the supply and demand of education and training but also takes into consideration the specificities of the enterprises and institutions that are part of the labour market, the behaviours of individuals and the various economic variables included in the dynamics of national and international competitiveness.

In this context, there are different approaches to anticipate qualifications and skills needs that, in most situations, are complementary and use quantitative and qualitative techniques and methods. Among these approaches, the following stand out (cf. Valente, 2006):

- Projections based on models (econometric/behavioural models; extrapolative/mechanistic models; surveys to employers and skills audits);
- Sectoral and professional studies;
- PEST[1] analysis, analysis of critical factors, *SWOT*[2] analysis;
- *Focus Groups*, observatories, *Delphi* technique, among others.

Official statistics, predicting models and surveys (such as skills audits) to employers and individuals, despite being useful are on their own not sufficient to identify emerging qualifications and skills. They must be supplemented with more qualitative approaches that focus on specific sectors, regions, professions or other target groups, implying an active participation of specialists /experts and other relevant stakeholders (economic and social agents and authorities responsible for the regulation of professional activities).

There are two possible ways to follow for the identification and anticipation of qualifications and skills:

Sector Councils for Qualification (CSQ) – update and development of the CNQ

The creation of CNQ[3] within the scope of the National Qualifications System (SNQ)[4] aimed at addressing one of the limitations of the vocational education and training system, namely the existence of qualifications which do not match today's real needs of the labour market and individuals. Therefore, it was considered strategic to use regulation mechanisms that connect training provision with the needs of the business sector in order to establish a relevant provision of qualifications. The creation of CSQs as technical and advisory groups that integrate a diversity of actors[5] plays a fundamental role in the strategic definition of qualifications and skills that meet the needs of the various economy sectors. Hence, these Councils enable the permanent and continuous update of the CNQ, seeking to meet the needs of the various stakeholders.

[1] "Political, Economic, Social and Technological" analysis.
[2] "Strengths, Weaknesses, Opportunities and Threats".
[3] Dynamic tool for the strategic management of non-higher qualifications, essential for the competitiveness and modernisation of enterprises and the productive sector and for the personal and social development of individuals.
[4] Decree-Law no. 396/2007, of 31 December.
[5] There is a fixed composition in terms of specialists for each CSQ including: members appointed by the Ministries supervising the sectors of activity covered by each CSQ, social partners, companies, training establishments, namely, public, private schools or cooperatives, professional schools, IEFP's training centres, certified training establishments, technological centres, the competent authorities and independent experts.

The creation of local and regional networks can be a way of deepening the knowledge on qualifications and skills needs. Therefore, the network of Centres for Qualification and Vocational Education (CQEP) will systematically identify local qualification needs in order to help define criteria to structure the network of vocational education and training provision in collaboration with the different actors on the ground. Such provision must match the needs of enterprises.

The collaboration between the CSQs and local networks as a strategic pathway towards the anticipation of qualification and skills needs seeks a close connection between education, training and employment.

Sector studies

Another possible way to support the identification and anticipation of qualification needs is by using or carrying out sector studies. These studies seek to identify evolutionary trends of the economic/professional sectors, notably in terms of technological and organisational innovation, and the existence of new products/markets that bring about the need to produce new qualifications or skills.

Both the updating work of the CNQ and the available sector studies aim at analysing the reality by involving relevant actors in gathering information, in systematising and assessing conclusions to anticipate qualifications and skills needs. Subsequently, a set of diverse methods and techniques may be combined, such as: interviews with key actors (sector experts, business associations, trade unions, among others); case studies; focus groups; questionnaires; collection of statistical data; SWOT analysis; etc.

Notwithstanding the possibility of using different methods and techniques in the development of these studies, the **functional analysis**[6] is presented as an example of a viable method to identify UCs/qualifications.

It is important to start by mentioning that the functional analysis is applied from the general to the particular through a succession of cascading breakdown processes, determining in each one of the different levels the functions that are necessary to fulfil the level immediately before it, until we eventually are able to do the particular and individual. Thus, its development does not rely on any type of pre-established structuring typology, depending on the complexity and scope of each level under analysis. It goes from determining the key objective of the activity sector and/or subsectors and/or professional areas to identifying the functions that shall help achieve that key objective. These functions can be associated with more than one area.

The main functions are the first level of breakdown that, by way of a cause and effect relationship, seek to achieve the key objective. In other words, the starting question is: what should happen for the result set out in the key objective to be accomplished? It is this level that sustains and determines the logic of the analysis.

[6] Available at: http://www.oitcinterfor.org/sites/default/files/edit/docref/elab_anafuncional_cvalora.pdf e http://www.oitcinterfor.org/sites/default/files/edit/docref/guia_anafuncional.pdf

The basic functions are placed at the second level of breakdown that is developed in the same way as the preceding level. It may happen that a function that was initially at the second level may be placed at a lower level so that the "functional map" becomes clearer (it is about outlining functions and not technical processes).

The breakdown of basic functions into sub-functions is the third level of disaggregation, each basic function fulfilling an exclusive purpose, i.e., each function appears only once on the map (therefore, functions shall not be repeated).

This breakdown process is completed when the description of a function clearly describes a performance (function carried out by an individual and possible to be assessed).

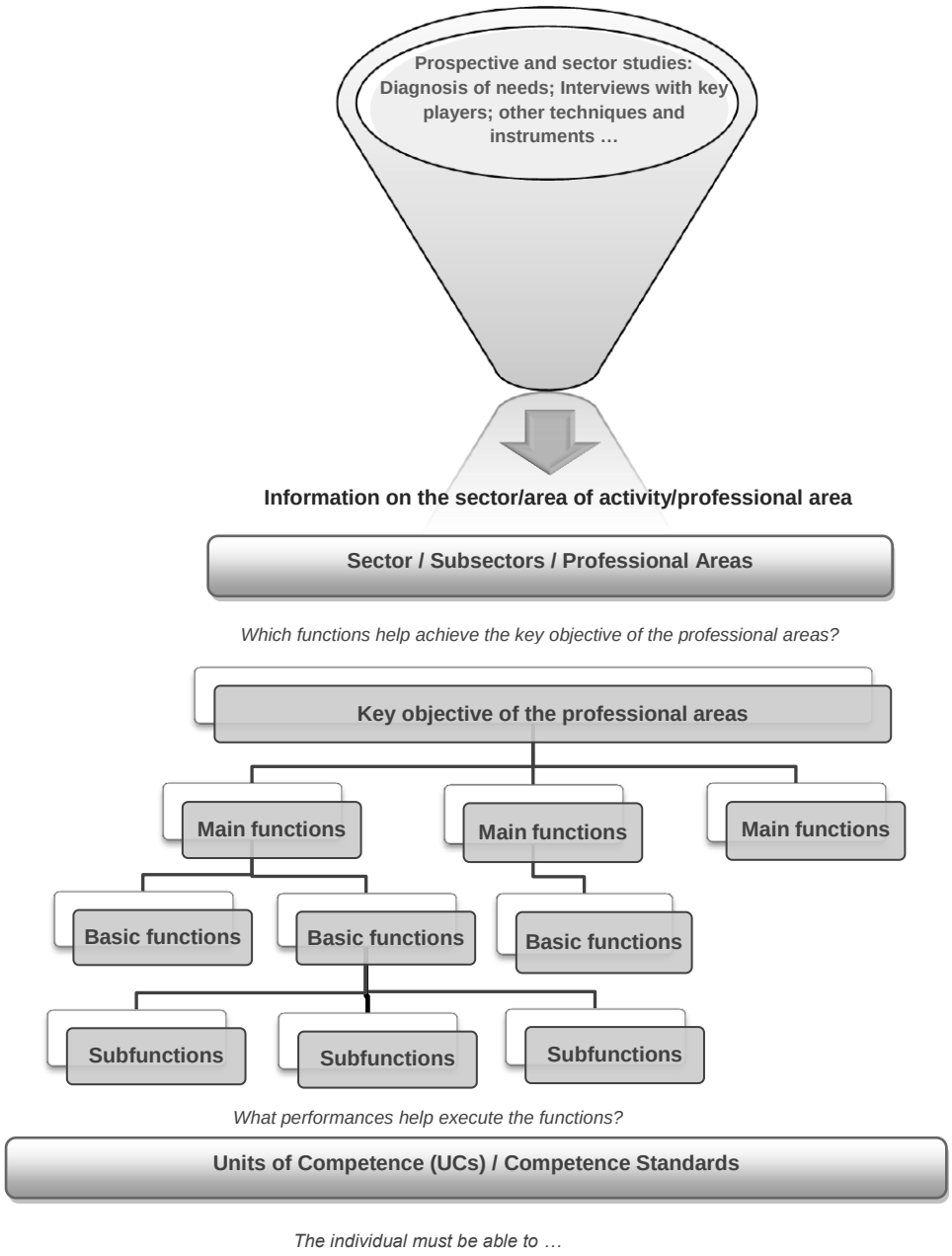
From this explanation it can be understood that the functional analysis is not an exact method, to the extent it requires a deductive strategy as an instrument for questioning and analysis. It involves several stages that are consolidated in a breakdown process (as many as necessary, taking into consideration the comprehensiveness and complexity of sectors) that culminates in the identification of the UC.

A UC is the coherent combination of learning outcomes, which can be autonomously evaluated and validated. The learning outcomes are broken down into knowledge, skills and attitudes that are mobilised in actions through which the individual shows that s/he masters the competence acquired, according to certain performance criteria and contextual conditions.

In practical terms, the aim of the UC is to respond to what the individual is able to do (by showing and demonstrating such performance), the identification of the UC being a time of functional analysis where it is possible to establish an association with a given professional.

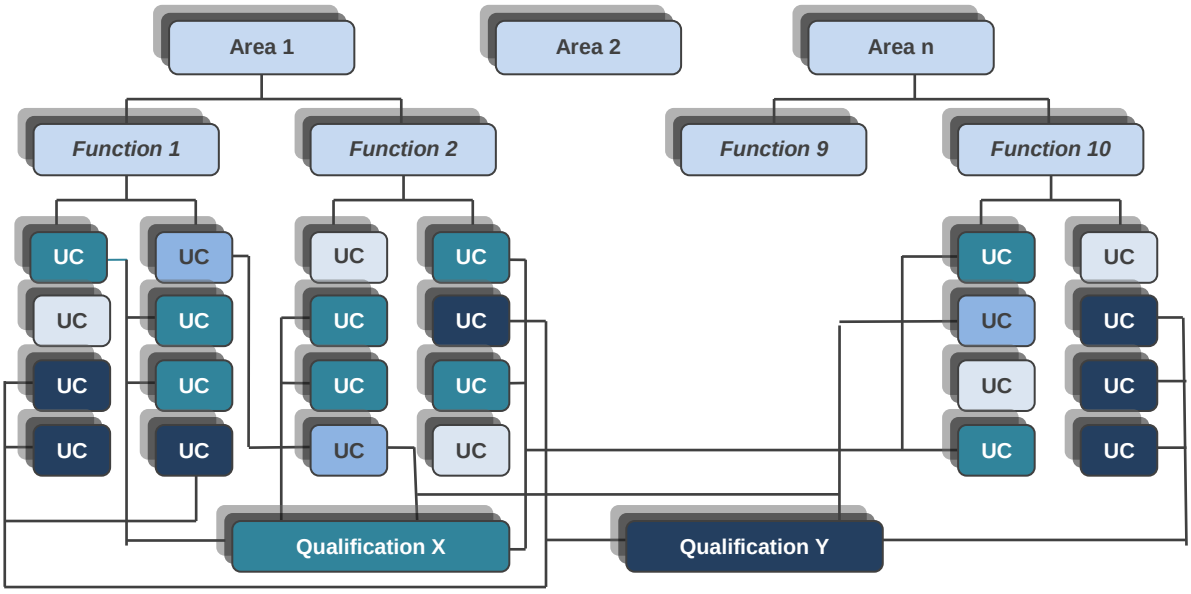
Figure 2 is presented for a better understanding of the identification process of the UC, based on the functional analysis.

Figure 2 . Identification of the Unit of Competence



Based on the key objective of the sectors and/or subsectors of activity or professional areas under analysis, several functions, subfunctions and activities are identified, the breakdown process of which ending with the identification of UCs that, once combined, shape the corresponding qualifications (figure 3).

Figure 3. Mapping of Units of Competence and Identification of Qualifications



From figure 3, it can be observed that qualification x and qualification y result from the combination of UCs that, on the one hand, can be specific to qualification x or y or, on the other hand, be common to both qualifications. It should be noted that the UCs that do not integrate these specific qualifications, will be used in shaping other qualifications.

2. THE COMPETENCE STANDARD

The **competence standard** is the "set of competences required to obtain a qualification" (Decree-Law no. 396/2007, of 31 December), i.e., it integrates the set of UCs which aim to respond to the main activities associated with a professional/professionals.

According to the definition adopted within the scope of SNQ (Decree-Law no. 396/2007, of 31 December), the **competence** is "**the proven ability to use knowledge, skills and attitudes at work, in professional development, in education and in personal development**". The main European tools – EQF, ECVET and the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET) – adopt the concept of **learning outcome**, considering that this represents "**what a learner knows, understands and is able to do on completion of a learning process**" (cf. Recommendation of the European Parliament and of the Council of 23 April 2008, concerning the establishment of the European Qualifications Framework for lifelong learning). From this perspective, the establishment of the NQF is also based on the adoption of the domains knowledge, skills and attitudes for the description of learning outcomes.

From the analysis of these two concepts – Competence and Learning Outcome – a significant overlap can be observed. On the one hand, the concept of learning outcome tries to translate what the holders of a qualification must be able to do and, on the other hand, the concept of Competence tries to convey what the individuals can do.

However, the concept of Competence goes beyond the identification of knowledge, skills and attitudes, by also explaining the ability to mobilise them in contexts of work, education and personal development. This formulation demonstrates that the concept of Competence stresses not only the way learning is expressed but also the context in which it is mobilised. In other words, the capacity to mobilise resources and solve problems also depends on the context "in which the action takes place".

With this enlargement of perspective, the identification of learning outcomes is not sufficient to construct competence standards, i.e., the design of standards requires that, in addition to individual resources, criteria that help explain how those resources are mobilised, are identified, in order to express a competent action in a given context. For this reason, standards include a greater set of analytical categories, including, besides the identification of actions to be carried out, the specification of performance criteria and context conditions that, together with the descriptors of the learning outcomes, characterise the UCs identified in each standard.

This second part of the Methodological Guidebook is structured into three points:

- Definition of UC, its constitutive elements, basic principles and technical requirements associated with it;

- Design stages of a UC; and

- Types of UC and configurations of competence standards.

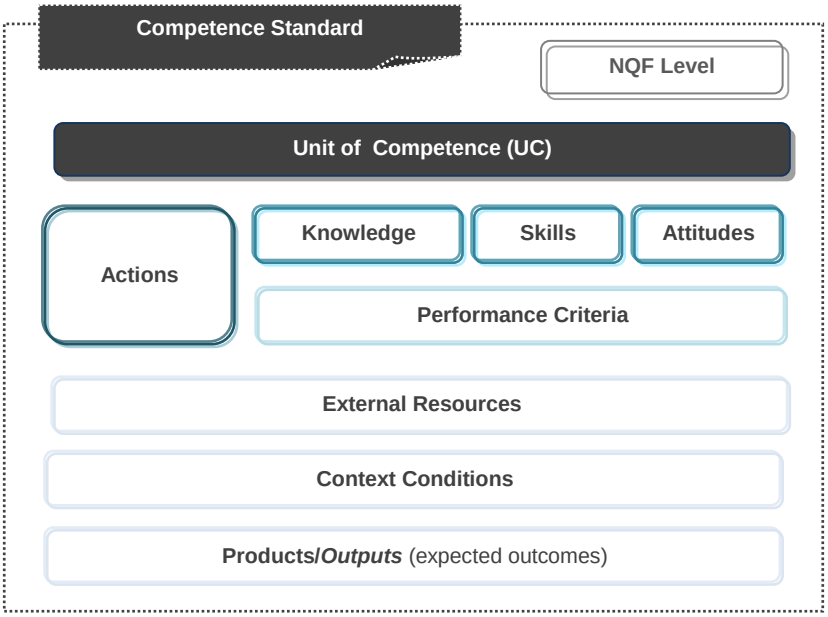
2.1. DEFINITION OF COMPETENCE UNIT (UC), CONSTITUTIVE ELEMENTS, BASIC PRINCIPLES AND TECHNICAL REQUIREMENTS

A UC consists of a coherent combination of learning outcomes, subject to evaluation and autonomous validation. Learning outcomes consist of knowledge, skills and attitudes that are mobilised in actions through which the individual shows / demonstrates mastery of the acquired competence, in accordance with certain performance criteria and context conditions.

Each UC consists of several elements (figure 4):

- *Actions* – Actions through which the individual demonstrates s/he masters the UC, i.e., they are the subdivision of the UC into directly observable actions showing that the individual is competent;
- *Knowledge* – The "collection of facts, principles, theories and practices related to the field of studies or professional activity" (Ordinance no. 782/2009, of 23 July);
- *Skill* – The "ability to apply knowledge and use the acquired resources to complete tasks and solve problems. It may be cognitive (use of logical, intuitive or creative thinking) or practical (implying manual skill and the use of methods, materials, tools and instruments)" (Ordinance no. 782/2009, of 23 July);
- *Attitude* – The "ability to develop tasks and solve problems of a higher or lower degree of complexity and different degrees of autonomy and responsibility" (Ordinance no. 782/2009, of 23 July);
- *Performance criteria* – Quality requirements of the UC associated with performance, i.e., quality standards by which the individual is considered competent (quality level that the actions must have);
- *External resources* – The set of available resources which aid in the foreseen actions;
- *Context conditions* – They different actions in a specific space and time and in a precise situation, i.e. in context;
- *Products/outputs* – Concrete results obtained as produced outputs resulting from performance. They help evaluate whether the performance was delivered based on the defined criteria. They are obtained products and/or demonstrated evidence.

Figure 4. Constitutive elements of the Unit of Competence



UCs have basic principles and technical requirements in their composition, namely in terms of:

Certification:

- The UC is the minimum certifiable unit which can be recognised at national level;
- The UC is possible to be demonstrated and acquired in diverse learning contexts (formal, non-formal and informal);
- The training response to the acquisition and certification of a UC assumes the association of one or more UFCDs for every UC.

Amplitude and transferability:

- The UC must be sufficiently well delimited so that it can be acquired and certified through one or more associated UFCDs;
- The UC should be sufficiently broad in terms of learning outcomes to be able to be used in diverse contexts;
- The UC must focus on the outcomes that are in fact important for the labour market, reflecting expected performance and not training contents;
- The UC can be capitalised for more than one qualification.

Clarity and legibility:

- In the definition of the UCs, clear terminology must be adopted to allow for a better understanding by individuals, enterprises and different training providers.

Specificity:

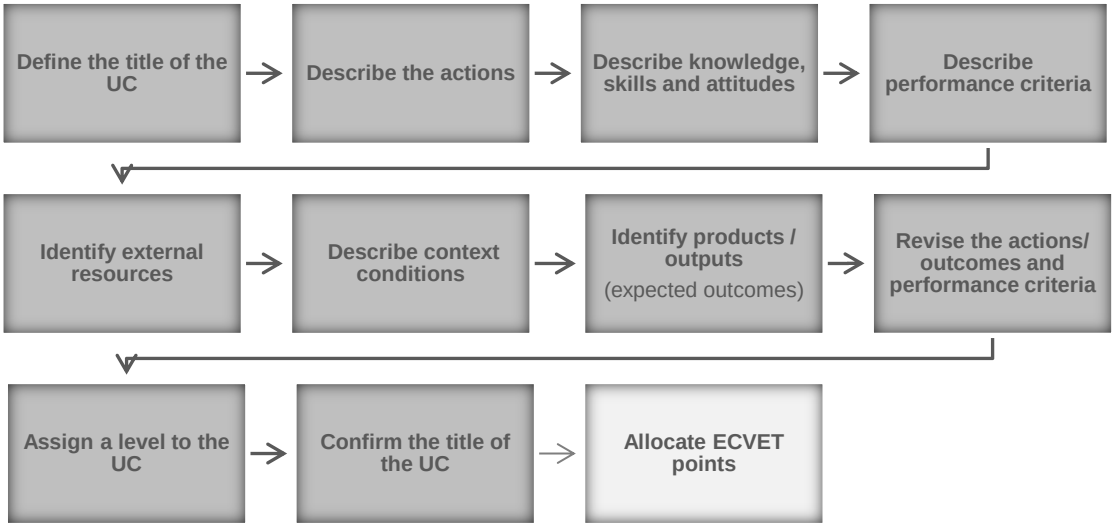
- UCs may lead to certification valued by the labour market and/or required by the sector, namely in the cases where they are part of one or more regulated activities. In this case, the articulation between the UC or UCs and the requirements demanded by the competent authority, which regulates the access to the profession, should be guaranteed.

The aforementioned principles shall not be observed on their own, i.e., the design of a UC shall contemplate the simultaneous use of several principles.

2.2. DESIGN PHASES OF A UNIT OF COMPETENCE

The design of a UC is based on a number of phases, as represented in figure 5.

Figure 5. Design phases of a Unit of Competence



1st phase – Define the title of the UC

The title given to the UC is of great importance for a number of reasons:

- The UCs will be more easily identified by the users and recognised by the labour market;
- Its inclusion in the certificate illustrates the learning outcomes achieved;
- The definition of a clear title helps identify similar UCs more easily, facilitating mobility and credit transfer processes (when applicable).

How to define the title of a UC?

The title of the UC must:

- be formulated in a clear, concise and precise manner that reflects the content of the unit itself;
- only refer to what is contained in the unit, without mentioning certain aspects, such as the evaluation methods of the unit;
- be drawn up using at the beginning of the sentence one or two action verbs in the infinitive form and a direct object. The verb identifies the action to be performed by the individual and the object describes the element on which the action focuses;
- use wide-ranging action verbs, which can be broken down into other verbs;
- correspond to the required certifications in order to be valued by the labour market, in case they are aimed at competences recognised and/or regulated by the sector of activity.

Figure 6. Example of a Unit of Competence

UC. To perform kitchen duties in the dining room in front of the client

2nd phase – Describe the actions

The division of the UC in directly observable actions should answer the question: "What must an individual do in order to demonstrate/prove s/he masters the UC?"

The division of the UC must allow the answer to have the following wording: "the individual must be able to ..."

The explanation of the actions must not be exhaustive (risk of normativity), identifying only the fundamental actions to provide evidence of the learning outcomes.

These actions must form a coherent set and be inter-related, showing its consistency with the title of the UC and not assuming greater scope than the UC itself.

How are the actions described?

The actions must:

- be worded in simple, clear, concise and coherent language;
- express what an individual must be able to do;
- in terms of wording, follow the structure "action verb + direct object". In general, only one or two action verbs are used to describe each action;

- not include more than one sentence or clause since this may mean that the action is too far-reaching; it is preferable to split it up and clarify what is to be achieved and thus make the performance/assessment more easily observable;
- be worded in objective language avoiding adjectives that create subjectivity (such as, good/bad, complete/incomplete, correct/incorrect, among others);
- express the end result, within the scope of the UC, instead of describing the learning process or learning activities;
- indicate the NQF qualification level to be assigned to the UC, and assuring that the level descriptors reflect the attainment of that NQF qualification level;
- be observable and subject to evaluation. The actions together with the performance criteria contribute to establishing an evaluation standard so that individuals have a clear idea of what is expected from them;
- use the specific terminology of the sector or professional area whenever this helps better understand the content of the action.

Figure 7. Example of Actions

Actions (A)

A1 – To prepare different delicacies in the dining room in front of the client.

A2 – To cook different delicacies in the dining room in front of the client.

A3 – To plate up and decorate different delicacies in the dining room in front of the client.

A4 – To present and serve different delicacies.

3rd phase – Describe knowledge, skills and attitudes

The set of knowledge, skills and attitudes makes up the learning outcomes. When describing these elements the question to be asked is: "what should the individual know, understand and be able to do in order to…."

Even though the qualification level to be assigned to the UC can only be confirmed or established after the definition of knowledge, skills and attitudes and performance criteria, it is important that the description of the learning outcomes takes into account the level descriptors and the corresponding level associated with the NQF.

As will be explained in the phase concerning the attribution of a NQF level to a UC, the NQF (Ordinance no. 782/2009, of 13 July) is structured in 8 Qualification Levels, each one defined by a set of descriptors that specify the learning outcomes corresponding to the qualifications in that level, in terms of Knowledge, Skills and Attitudes. The NQF level descriptors are the elements where the learning and context characteristics associated with the qualifications of each level of qualification are described.

The NQF presupposes the existence of a vertical progression between levels, which can be expressed in different ways:

- By the progressive increase in complexity, depth and amplitude of the learning outcomes. Thus, there is a gradation of knowledge, skills and attitudes - that goes from the lowest level to the highest level of qualification – each subsequent level integrates the learning outcomes of the previous level in a cumulative logic;
- By the complexity and diversity of the characteristics of the context in which they can be applied;
- By the increase of autonomy, responsibility and self-reflection;
- By the progressive introduction of new learning outcomes in higher levels of the NQF.

The following table shows some of the verbs (organised in alphabetical order) that can be used to describe knowledge, skills and attitudes by level of qualification:

Table 1. Example of verbs to describe knowledge, skills and attitudes by level of qualification

Level 2	Level 4	Level 5
Classify	Apply	Apply
Compare	Clarify	Clarify
Describe	Classify	Classify
Differentiate	Compare	Compare
Distinguish	Demonstrate	Demonstrate
Estimate	Devise a plan	Devise a plan
Illustrate	Diagnose	Diagnose
Select	Distinguish	Distinguish
	Evaluate	Evaluate
	Estimate	Estimate
	Extrapolate	Extrapolate
	Interpret	Interpret
	Judge	Judge
	Revise	Manage
		Revise
		Supervise

Source: adapted from BLOOM, 1956, ANDERSON, L.. & KRATHWOHL, D. et al., 2001 and QCA, 2010.

For a better understanding of the difference between qualification levels, two sub-areas for knowledge, skills and attitudes are considered.

In the case of **Knowledge** two sub-areas are considered: Depth and Understanding/Aim.

> ***Depth*** *– It is understood that the greater the complexity and amplitude of objects of knowledge the deeper knowledge is. A progressive increase in depth is considered form the lowest level – at qualification level 1 the individual is expected to be able to demonstrate s/he possesses basic knowledge of facts and concepts – up to the highest level – where it is expected that the individual is able to demonstrate s/he possesses profound knowledge and is in the forefront of a specialised area of study or work, and also in the interconnection between different areas.*
>
> ***Understanding/Aim****– At a more simple level it is considered to be the interpretation of information and application in the context and, at a higher level, to be the critical awareness of issues related to knowledge in the area and interconnection with other areas.*

Source: ANQ, 2011

As regards **Skills**, this domain is subdivided into two sub-domains, with the following characteristics:

> ***Depth and Breadth*** *– this subcategory envisages a progressive broadening and specialisation of the range of cognitive and practical skills, from a range of restricted breadth and basic depth at qualification level 1, to an advanced range of skills at the forefront of a field of work or study at the highest level of qualification;*
>
> ***Understanding/Aim*** *– within this sub-domain it is considered that at the lowest level the individual should be capable of performing tasks and solving simple problems by interpreting basic information (tasks of execution), and at a higher level of qualification it is expected to be able of research and innovation to solve critical problems and perform highly complex tasks or to redefine existing knowledge and professional practices (research and development tasks, innovation).*

Source: ANQ, 2011, Referencing Report of the NQF to the EQF

Finally, **Attitudes** are subdivided into Responsibility and Autonomy (according to the NQF).

> ***Responsibility*** *– in this sub-domain both the responsibility of the individual for his or her own acts and the responsibility for third parties are included.*
>
> *With regard to responsibility for one's own actions, a grading has been adopted from work under instructions with shared responsibility up to work with assumed responsibilities and with a strong commitment to the development of new ideas and new processes in the forefront of a field of work or study. As to the level of responsibility for third parties, there is a progression from no responsibility to responsibility for others, demonstrating authority, innovation and scientific and professional integrity is considered.*
>
> ***Autonomy*** *– this sub-domain is structured from the absence / low level of autonomy to maximum autonomy.*

Source: ANQ, 2011

For a more detailed explanation and deepening of the domains of knowledge, skills and attitudes, consult the e-book "Guia Interpretativo do Quadro Nacional de Qualificações (ANQEP, 2014, available only in Portuguese).

How are knowledge, skills and attitudes written?

- There is no order in the definition of knowledge, skills and attitudes. There must be a matrix type thought instead of a linear thought, being very difficult to define a sequential pathway;
- The description of Knowledge must contain the sub-domains Depth and Understanding / Aim;
- The description of Skills must contain the sub-domains Depth and Breath and Understanding / Aim;
- The description of Attitudes must take into account Responsibility (for one's own actions and for the actions that third parties carry out) and Autonomy. However, in this methodology, it is assumed that this concept also comprises behavioural resources (personal and inter-personal behaviours).

Basically, knowledge, skills and attitudes must reflect the level descriptors to guarantee that the appropriate level of the NQF is attained.

The following are examples of verbs used in the description of skills and attitudes in accordance with the sub-domains:

Table 2. Example of verbs for the description of sub-domains of skills and attitudes

Skills	
Depth and Breath and Understanding / Aim	Elaborate, Construct, Develop, Prepare, Process, Manipulate, Operate, Design, Repair, Transport, Observe, Use, Adjust, Assemble, Introduce, Conceive
Attitudes	
Autonomy and Responsibility	Collaborate, Guarantee, Be responsible for, Guide, Supervise, Monitor, Manage, Mediate, Decide, Evaluate, Create, Advise, Negotiate
Relational abilities	Communicate, Establish interpersonal relationships, Work as a team

Source: adapted from INOFOR, 1999 and NCFHE, 2013

Figure 8. Example of Knowledge

Knowledge

A1 – Prepare different delicacies in the dining room in front of the client.

Fundamental knowledge of technical and safety standards of table service;

Fundamental knowledge of raw materials, equipment and utensils;

Fundamental knowledge of food handling procedures;

Fundamental knowledge of food safety and hygiene standards.

A2 – Cook different delicacies in the dining room in front of the client.

Deep knowledge techniques of preparing different delicacies in the dining room in front of the client;

Fundamental knowledge of delicacies prepared in the dining room in front of the client;

Fundamental knowledge of food characteristics, their dietary composition, nutritional value and origins;

Fundamental knowledge of food handling procedures;

Fundamental knowledge of hygiene and food safety standards.

A3 – Plate up and decorate different delicacies in the dining room in front of client.

Deep knowledge techniques of plating up and decorating different delicacies in the dining room in front of the client;

Fundamental knowledge of food handling procedures;

Fundamental knowledge of hygiene and food safety standards.

A4 – Present and serve different delicacies.

Deep knowledge techniques of waiting on at table in the dining room kitchen in front of the client;

Deep knowledge on waiting on the client;

Fundamental knowledge of hygiene and food safety standards;

Fundamental knowledge of rules for hygiene and personal presentation;

Fundamental knowledge of rules for dealing with complaints;

Expert knowledge for service protocol;

Basic knowledge on eating habits and cultures.

Figure 9. Example of Skills

Skills

A1 – Prepare different delicacies in the dining room in front of the client.

Organise the area, equipment and utensils depending on the delicacies to be cooked in the dining room in front of the client;

Identify the different types of food, their nutritional and dietary characteristics;

Apply food safety and hygiene standards.

A2 – Cook different delicacies in the dining room in front of the client.

Apply food handling techniques;

Apply cooking techniques of different delicacies in the dining room in front of the client;

Apply food safety and hygiene standards.

A3 – Plate up and decorate different delicacies in the dining room in front of the client.

Apply food handling techniques;

Creatively apply plating up and decorating techniques;

Apply food safety and hygiene standards.

A4 – Present and serve different delicacies.

Apply service techniques in the dining room kitchen in front of the client;

Identify and propose solutions for dealing with complaints;

Apply communication techniques;

Provide information to the clients.

Figure 10. Example of Attitudes

Attitudes

A1 – Prepare different delicacies in dining room in front of the client.

Demonstrate organisational skills;

Team work;

Demonstrate care and attention ensuring correspondence between the orders and the corresponding service;

Demonstrate capacity for (restricted) autonomy and initiative;

Demonstrate ability to adapt to new equipment, technology and utensils;

Comply with food safety and hygiene standards.

A2 – Cook different delicacies in the dining room in front of the client.

Demonstrate responsibility in the use of furniture, equipment and utensils;

Comply with nutritional and dietary principles;

Demonstrate (restricted) ability to be autonomous;

Comply with food safety and hygiene standards.

A3 – Plate up and decorate different delicacies in the dining room in front of the client.

Comply with plating up and decorating rules;

Demonstrate a sense for aesthetics when presenting different delicacies;

Comply with food safety and hygiene standards.

A4 – Present and serve different delicacies.

Comply with the technical standards and protocols for service in the dining room kitchen in front of the client;

Demonstrate the ability to active listening when interacting with the client;

Demonstrate the ability to solve problems resulting from the clients' requests and complaints;

Communicate with varied interlocutors;

Comply with food safety and hygiene standards.

4th phase – Describe performance criteria

Performance criteria define and specify the level that the individual should reach to demonstrate that the action has been performed. This way, they correspond to the evaluation criteria that specify what has to be evaluated and what the required performance level is.

How are performance criteria described?

Performance criteria must:

- Be directly associated with the professional actions;
- Be sufficient in number to be able to evaluate that a given learning outcome has been attained (for each action there should be one or more performance criteria);
- Be observable, measurable and provide qualitative information that reflects the performance;
- Reflect the essential aspects of the performance and not accessory or marginal aspects;
- Be sufficiently detailed and precise so that no ambiguity arises with regard to the evaluation, and allow the learner to be aware of the criteria by which s/he can be evaluated, as well as enabling the evaluation to determine to what extent the learning outcome was achieved;
- Be drafted in simple and clear language, without ambiguities. Therefore, they must be written in an objective manner, avoiding the use of adjectives that are subjective (e.g., good/bad, complete/incomplete, correct/ incorrect, more/less);
- Be formulated with no reference to methods, instruments or evaluation specifications, thus allowing the various users to determine the method(s) that is(are) most appropriate in a given context. For this reason, these methods must be determined outside the drafting process of the UC.

It should also be noted that, even though it is possible to use a variety of verbs in the drafting of the performance criteria, these alone do not allow for the allocation of a given qualification level. For this allocation the rest of the formulation of the criterion is also fundamental.

Figure 11. Example of Performance Criteria

<u>Performance criteria</u>

A1 – Prepare different delicacies in the dining room in front of the client.

Selecting the foods, the equipment and the utensils according to the technical file/ menu and the preparation procedures;

Applying food handling and treatment techniques according to its type and to food safety and hygiene standards.

A2 – Cook different delicacies in the dining room in front of the client.

Using the equipment and utensils according to the different types of preparation;

Ensuring nutritional and dietetically balanced dishes;

Applying food handling and treatment techniques according to its type and to food safety and hygiene standards;

Controlling timings and temperatures according to the used cooking techniques.

A3 – Plate up and decorate different delicacies in the dining room in front of the client.

Applying food handling and treatment techniques according to its type and to food safety and hygiene standards;

Applying plating up and decorating techniques in accordance with established rules.

A4 – Present and serve different delicacies.

Waiting on the clients in accordance with the established protocol;

Informing the clients, when requested, about the ingredients and the cooking process of the different delicacies;

Communicating with the client in order to establish the necessary interaction and understanding so as to improve the service and the level of satisfaction;

Proposing solutions for problems arising from requests or possible complaints by the clients.

5th phase – Identify external resources

External resources are the resources available in the context in which the individual finds him or herself and which will help perform the foreseen actions. These resources may be of different types: databases, technical guidelines, manuals of procedures, among others[7].

In order to describe external resources the following questions should be asked:

- What equipment and tools are required to perform these actions?
- What materials are used?

[7] Authors such as Boterf (2007) consider that external resources can also include contact networks, one's colleagues' or other professionals' skills and scientific cooperation networks.

- What methods or processes are used?
- What safety specifications are required?
- What databases need to be accessed to perform the actions?

Figure 12. Example of External Resources

External resources

- Food safety and hygiene standards and procedures;
- Technical and safety standards for serving food at table;
- Technical and protocol standards for service;
- Recipes /technical files;
- Menus;
- Raw materials and ingredients;
- Restaurant/bar equipment;
- Devices for the circulation of information;
- (...).

6th phase – Describe context conditions

The context conditions are associated with the UC, establishing the learning outcome in a given space and time and in a specific situation. These conditions are necessary to evaluate the implementation of the performance criteria and for the demonstration of the obtained products/outputs.

The context conditions may be of various natures – technical, technological, organisational, documental, among others – and, in certain circumstances, be identical to external resources.

To describe the context conditions the following questions must be asked:

- What equipment and tools are required to perform these actions?
- What materials are used?
- What safety specifications are required?
- In what organisational context are these actions performed?

Figure 13. Example of Context conditions

Context Conditions

- Kitchen fitted with specific equipment and utensils for …;
- Dining room/bar fitted with specific equipment and utensils for …;
- Technical files of an "x" type of restaurant';
- Menus of an "x" type of restaurant;
- (…).

7th phase – Identify products/outputs (expected outcomes)

In this phase, the concrete outcomes are described in terms of produced products/outputs resulting from the UC. This description helps to evaluate whether the performance was achieved based on the defined criteria. Basically, they are the obtained products and/or demonstrated evidence.

These expected outcomes must:

- Be able to be performed by an individual;
- Be subject to observation;
- Be formulated in commonly used language;
- Be directly related with the performance criteria.

The products/outputs may be of different nature depending on the actions themselves. Therefore, they may be easily associated with a specific product (as in the case of an electric installation, a dessert, among other examples) or with an evidence of performance (as in the case of the application of food handling and treatment techniques).

Figure 14. Example of Products/Outputs

Products/*outputs*

- Fish and seafood dishes;
- Desserts (fruit and sweets);
- Client service in the dining room kitchen;
- (…).

8th phase – Revise the actions and performance criteria

In this phase, the actions and the performance criteria are revised, having as reference their importance in the attribution of a level to the UC. This phase aims at guaranteeing the coherence of the UC.

In this revision phase, and in order to guarantee the coherence of the UC, the following questions must be answered:

The actions …

- are formulated in simple, concise and coherent language?
- express what an individual must be able to do?
- reflect the achieved final result?
- can be evaluated?

Are the performance criteria …

- directly associated with the actions?
- critical and sufficient to evaluate the learning outcomes?
- written in simple, clear language, free of ambiguity?
- observable, measurable and do they provide qualitative information that reflects performance?

9th phase – Assign a NQF level to the UC

The UC must be associated with a NQF level.

> *The NQF is structured in Qualification Levels, each one defined by a set of indicators that specify the learning outcomes corresponding to the qualifications of that particular level in terms of Knowledge, Skills and Attitudes.*
>
> *Qualification levels:*
>
> *- Are indicators of complexity and/or depth of knowledge and skills, and of the learner's autonomy and responsibility. Therefore, each of the levels is described using a range of generic indicators which characterise the expected result for each level, in terms of Knowledge, Skills and Attitudes;*
> *- Refer to learning outcomes and neither to the learning process nor to the evaluation method;*
> *- Provide a set of constructs that serve as reference to the design of the units regarding the attribution of a level;*
> *- Are described in a set of general indicators that characterise each level.*
>
> **Source**: ANQ, 2011 (adapted)

The assumption of the qualification level of the NQF should result from:

1) The set of knowledge, skills and attitudes;
2) The analysis of the performance criteria.

The language used in the preceding phases regarding the description of knowledge, skills and attitudes and the performance criteria is very important, as it must suggest the level of a given UC.

It should also be noted that the performance criteria should be sufficiently detailed to be able to evaluate the attribution of a level to a UC. In a later phase, these elements should be compared to the level descriptors of the NQF so that a qualification level can be attributed to the UC.

Even though it is not easy to find complete correspondence with the descriptors of a given level, there must be a predominant level.

> *The **level descriptors** are presented in Ordinance no. 782/2009, of 23 July, and describe each of the qualification levels. These describe the characteristics of learning and the context in which such learning occurs.*
>
> *The descriptors enable to:*
>
> *- Obtain an overall and common understanding of each of the 8 NQF levels;*
> *- Serve as reference to design of qualifications;*
> *- Help in the allocation of units to a given level, in case these units have been independently capitalised or had been previously designed;*
> *- And, aid the design of the units and help allocate them to a given NQF level.*
>
> *On purpose, the descriptors are formulated in a generic form thus enabling their application to different ways of obtaining the qualification (formal, non-formal and informal) and present elements related to the school/academic context, but also to a working context.*
>
> *It is important to demonstrate that the descriptors describe the NQF level and not the characteristics of a Unit of Competence by itself. For this reason, it is not expected that each Unit has all the characteristics of a given level.*
>
> Source: ANQ, 2011 (adapted)

In the decision regarding the allocation of a level it is necessary:

- To compare each UC with the expected level descriptor, simultaneously making a comparison with the level descriptor immediately above it and that immediately below it;
- To determine the predominant level of a given UC comparing the actions (corresponding knowledge, skills and attitudes) and the performance criteria of the UC with the descriptors;
- To give relevance to the domain(s) which have the greatest impact in an action, assuming that the domain(s) may have a greater importance at the time of deciding on the allocation of the level;
- To attribute the level of qualification which is predominant in the UC;
- To find additional evidence of a level or to redesign the UC so that it reflects one single level, if there is difficulty in its allocation.

To decide on the allocation of a level to the UC the following questions must be asked:

- What appears to be the prevailing qualification level when the UC is compared with the expected level descriptor?
- What is the level inferred from the analysis of each action? Is it necessary to revise each action and corresponding knowledge, skills and attitudes to better reflect the corresponding level?

- What is the level inferred from the analysis of each of the performance criteria? Is it necessary to revise each of the performance criteria to better reflect the corresponding level?
- Is there a gap between the prevailing qualification level of the Unit and the level inferred from the analysis of the actions and the performance criteria? If so, is it necessary to make a revision?

In the *e-book* "*Guia Interpretativo do Quadro Nacional de Qualificações*" (ANQEP, 2014) a pathway to allocate a level is suggested, by presenting a number of support instruments (check-lists and flowcharts).

10th phase – Confirm the title of the UC

The title of the UC can only be definitely given in the final phase of its construction. In order to give this title, the entire design process of the UC, with special focus on its content, must be taken into account.

The following questions must be asked in order to confirm the title of the UC:

- Is the title of the UC clear, concise and drafted in a precise manner?
- Does this title reflect the content of the unit itself?
- Are the action verbs used in the title of the UC of a broad spectrum?
- Is the title of the UC appealing and easy to understand by the sector or professional area?

11th phase – Allocate ECVET points[8] [9]

ECVET points are the numerical representation of the overall "weight" of the learning outcomes in a qualification and of the relative "weight" of each UC in relation to the qualification. For this reason, the allocation of ECVET points only occurs when all the UCs that constitute a qualification have been defined.

ECVET points provide complementary information about qualifications and UCs in numerical form. These points have no value independent of the acquired learning outcomes for the particular qualification to which they refer and they reflect the achievement and accumulation of the corresponding UCs.

In order to have a common approach when using ECVET points and to facilitate its implementation, it was agreed (through the Recommendation of the European Parliament and of the Council of 18 June 2009 on the creation of the European Credit System for Vocational Education and Training) that 60 points are allocated to the learning outcomes expected to be achieved in a year of formal full time Vocational Education and Training.

The definition of ECVET points is based on a group of commonly used criteria (COM, 2012):

- The relative importance of the learning outcomes which constitute the UC for labour market participation, progression to other qualification levels, among other elements;
- The complexity, scope and volume of learning outcomes in the UC;
- The effort necessary for a learner to acquire the knowledge, skills and attitudes.

[8] ECVET is a common technical framework aimed at transferring, recognising and accumulating learning outcomes in a context of mobility for the purposes of obtaining a qualification. ECVET is applicable to all learning outcomes achieved by an individual in the different education and learning pathways and that are then transferred, recognised and accumulated with the view to obtaining a qualification.
[9] The allocation may occur in the future when applying ECVET to the Portuguese context.

The definition of these points may result from the application of the different criteria or of only one.

2.3. TYPES OF UNITS OF COMPETENCE AND CONFIGURATIONS OF COMPETENCE STANDARDS

In order to configure and design the competence standard, it is essential to differentiate the UCs in terms of nuclear units (mandatory) and non-nuclear units (optional).

The Nuclear UCs (mandatory) are core units which should mandatorily be detained in order to obtain a given qualification. These units constitute the core of a qualification.

The Non-nuclear UCs (optional) are units which are not considered the core of the qualification but are necessary to configure it. In other words, they may be selected from a set of UCs to complete the qualification. These UCs may constitute a pool or be free options in the sense that the individual/training provider is free to choose them in order to complete the qualification, within a given limit. The existence of these UCs provides greater flexibility in the planning of individual's educational path.

The nuclear UCs are the core of the qualification, and must represent between 80% and 90% of all its competences. The competences corresponding to the remaining 10% to 20% are optional and may be identified from a set of competences which respond to the specific needs of the qualification in a given context (professional, local, regional…).

The UCs, regardless of being nuclear or non-nuclear, may also be:

- **Specific** to a qualification;
- **Common** to several qualifications (to one or more education and training areas and to qualifications positioned at different levels of the NQF).

The common UCs are transferrable between different contexts. Therefore, a UC can be nuclear in a given qualification and optional in another qualification.

The type of UC is a determining factor in the configuration and design of the competence standard. Different models of standards exist:

- Closed models: Only comprised by nuclear UCs (mandatory) to obtain the qualification;
- Flexible models: Additionally to the nuclear UCs (mandatory), these models can also consider three possible structures, namely:
  - Pool of optional UCs from which the individual/training provider should select a pre-determined number to complete the qualification;
  - "Optional free UCs" that are characterised by the "freedom" to select UCs which do not integrate the qualification within a pre-determined limit, similar to the UCs of the pool;
  - Combination of both previous possibilities.

Figures 15, 16, 17 and 18 represent structuring models of the technological component of a competence standard.

Figure 15. Closed model: mandatory UCs (nuclear)

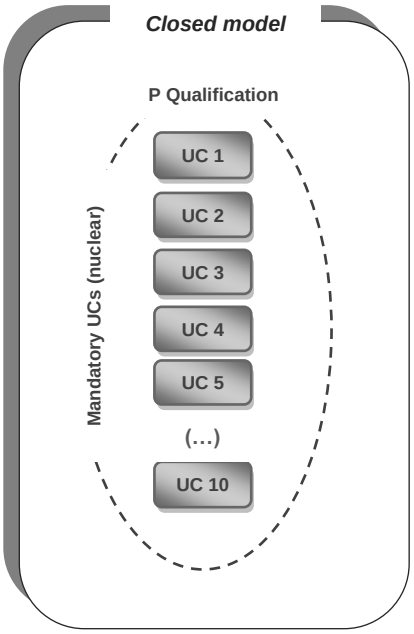


Figure 16. Flexible model: mandatory UCs (nuclear) + optional UCs (non-nuclear) from the pool

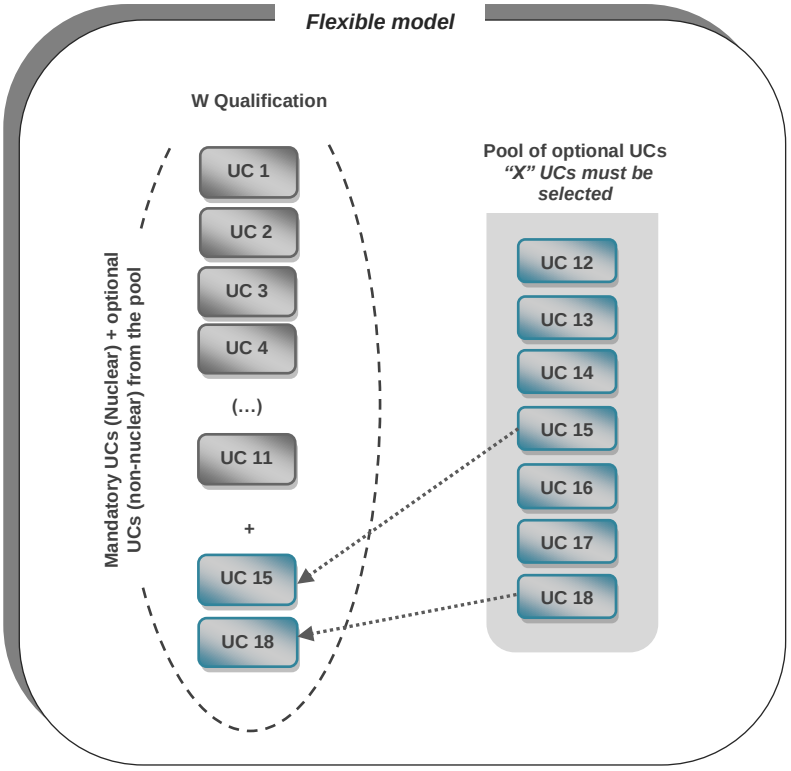


Figure 17. Flexible model: mandatory UCs (nuclear) + "free" optional UCs (non-nuclear)

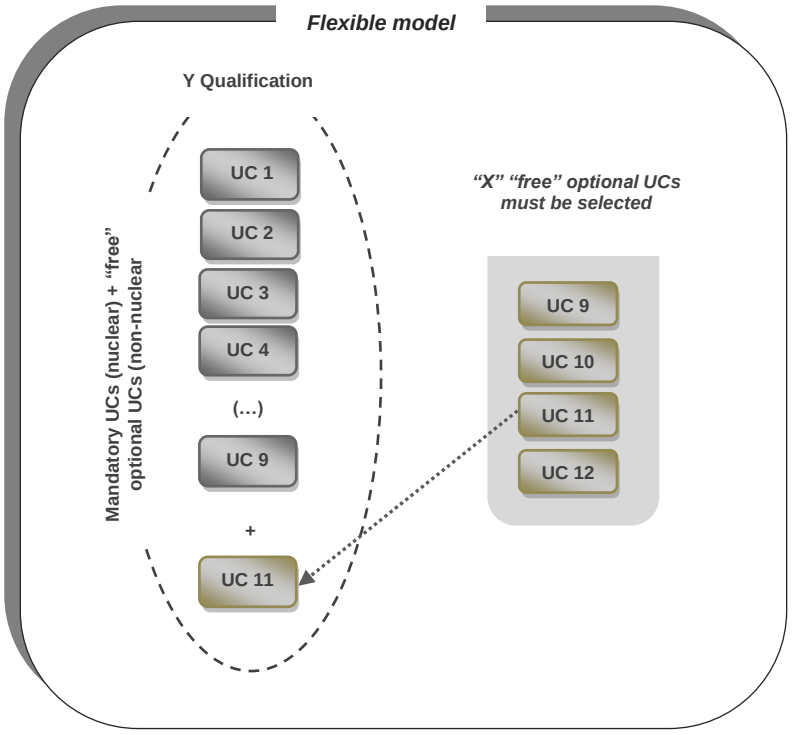
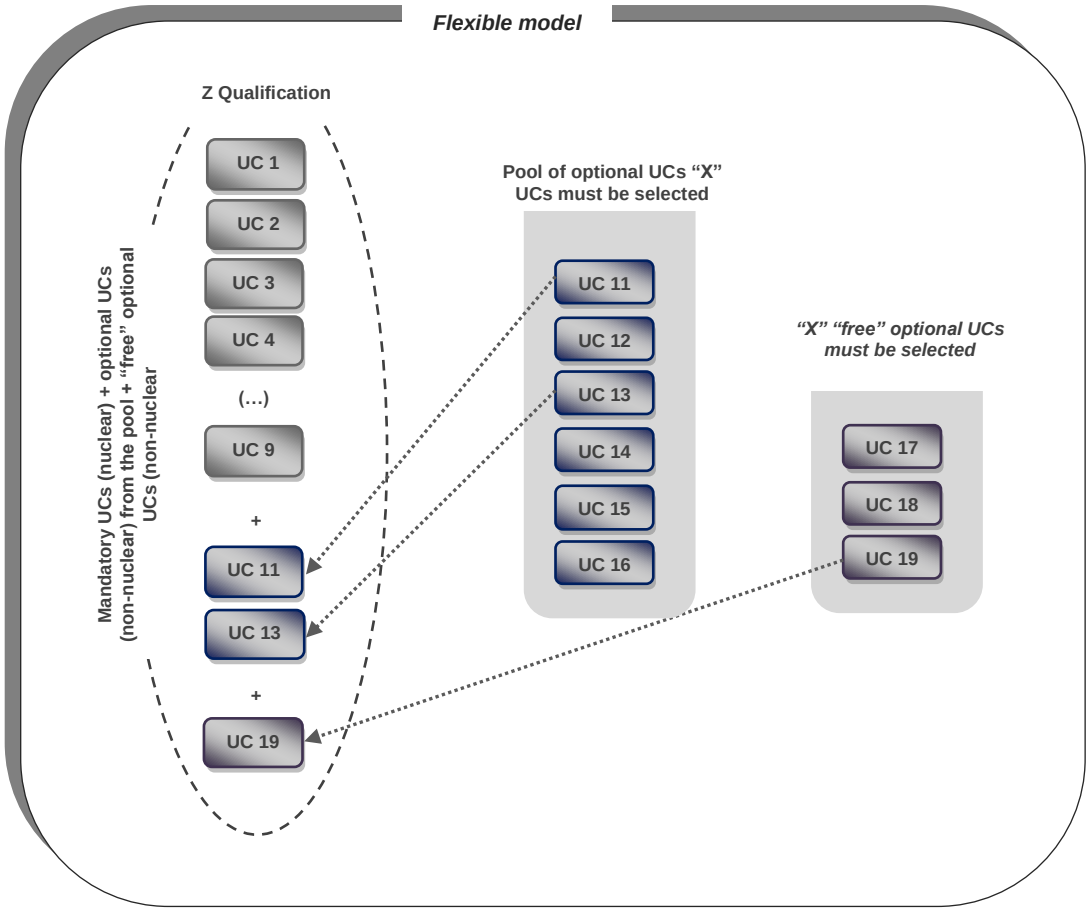


Figure 18. Flexible model: mandatory UCs (nuclear) + optional UCs (non-nuclear) from the pool + "free" optional UCs (non-nuclear)



Types of certification

Besides the total certification of a qualification, partial certifications associated with one or more qualifications may also be considered.

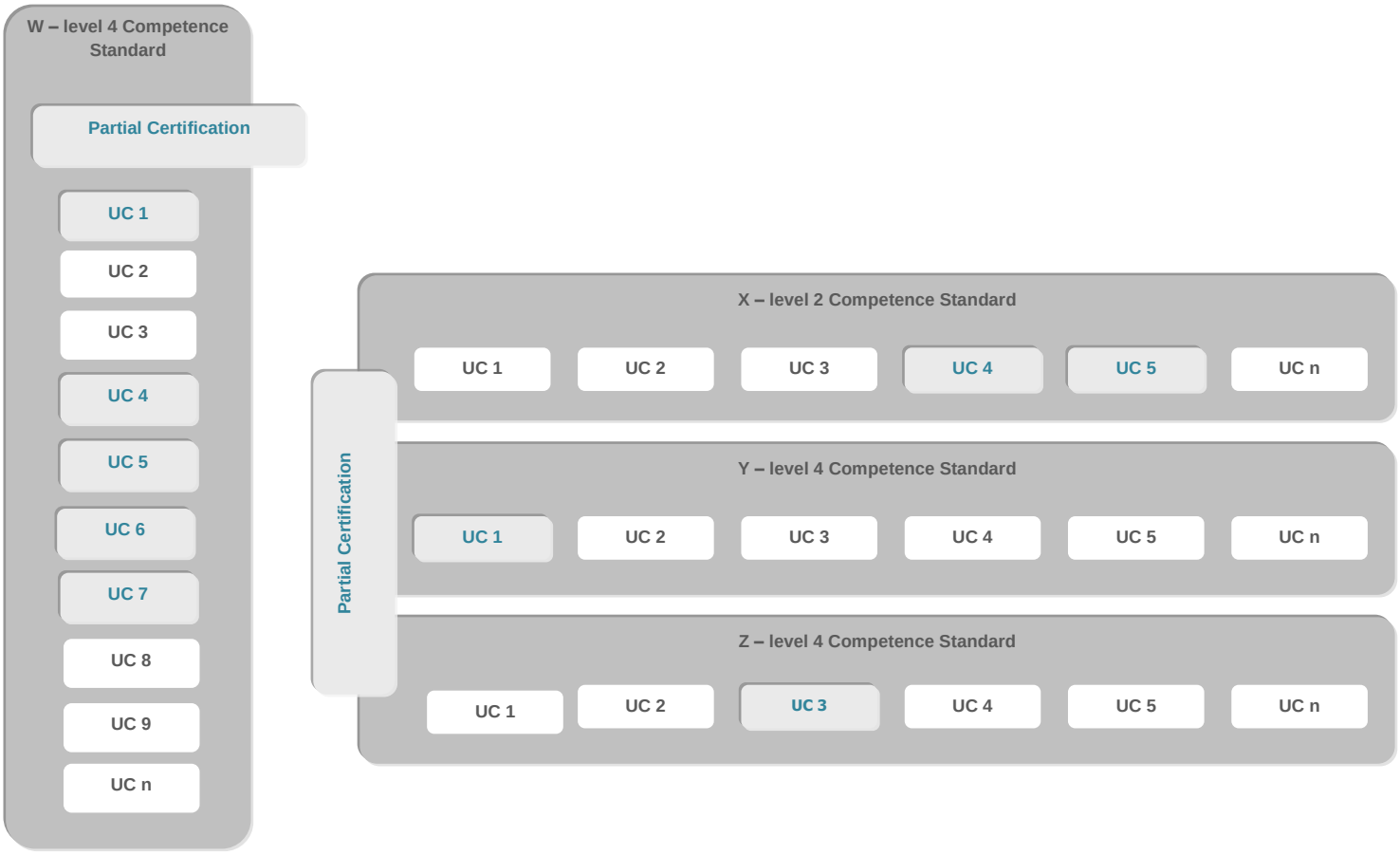
A partial certification is the possibility to autonomously certify one or more UCs that integrate a qualification with a view to meeting specific needs valued by the labour market. Partial certifications are of strategic importance for different sectors of activity and stakeholders of the labour market, enabling satisfying competence needs required for one or more professional activities.

These certifications alone do not allow obtaining a qualification nor do they confer a NQF level; they are intermediate pathways.

The UC or UCs that configure a partial certification is/are integral parts of pathways, for example of level 2 and/or level 4 of the NQF. These pathways may result from two types of different structures (figure 19):

- A structure that integrates UC from a single competence standard; and
- A structure that integrates UC from two or more competence standards.

Figure 19. Example of partial certifications



It should also be noted that the **intermediate pathways of a qualification** can mobilise nuclear and non-nuclear UCs (optional from the pool), and as a whole **they are all mandatory to obtain a given certification**. This means that regardless of a partial certification being formed by nuclear UCs (mandatory) or by non-nuclear UCs (optional), all UCs must be subject to evaluation and to validation.

3. The Training standard and the Correspondence between Units of Competence and Short-Term Training Units

The training standard comprises the "set of information which guides the planning and organisation of the training, depending on the professional profile or on the respective competence standard, referenced to the National Catalogue of Qualifications" (Decree-Law no. 396/2007, of 31 December).

Therefore, a training standard is always associated with a competence standard, with the intention of establishing correspondence between the UCs and the UFCDs that integrate respectively the technological (professional) component of these same standards. The UCs and the UFCDs are the minimum certifiable units within a training path or a professional RVCC process subject to autonomous evaluation and validation and integration in one or more paths, depending on it being a specific UC/UFCD or a common UC/UFCD. The UCs and the UFCDs are the smallest units of the qualification that allow recognition and certification at national level.

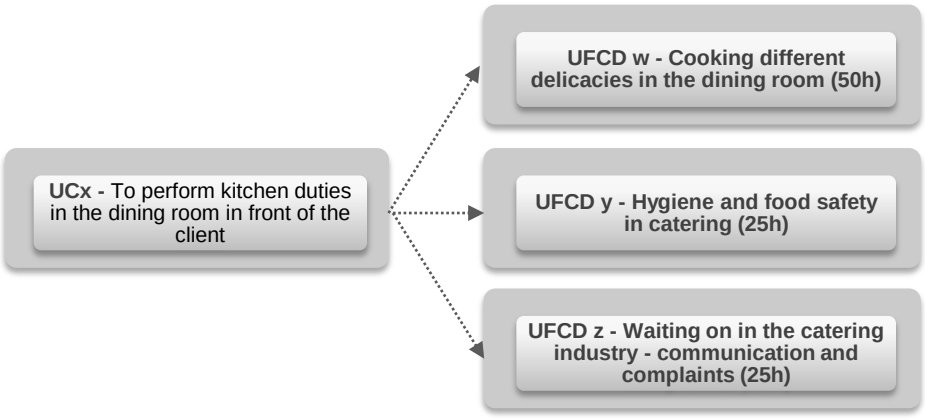
This correspondence between the UC and the UFCD eases the referral to training paths (e.g., Adult Education and Training Courses – EFA courses – or Certified Modular Training - FMC) in order to acquire the missing competences and this way conclude the individual's qualification pathway.

Only this way is it possible to establish a close connection between the labour market and training, between the competences acquired by an individual and the response to his/her training needs, as well as between the expected and the achieved learning outcomes. This contributes to greater legibility, transparency and recognition of qualifications at regional, national and international level.

The design of the technological (professional) component of a training standard begins with the identification of the UFCD or UFCDs which ensure correspondence to each one of the UCs of the competence standard.

The training standard should include the correspondence between the UCs and the UFCDs as shown in figure 20.

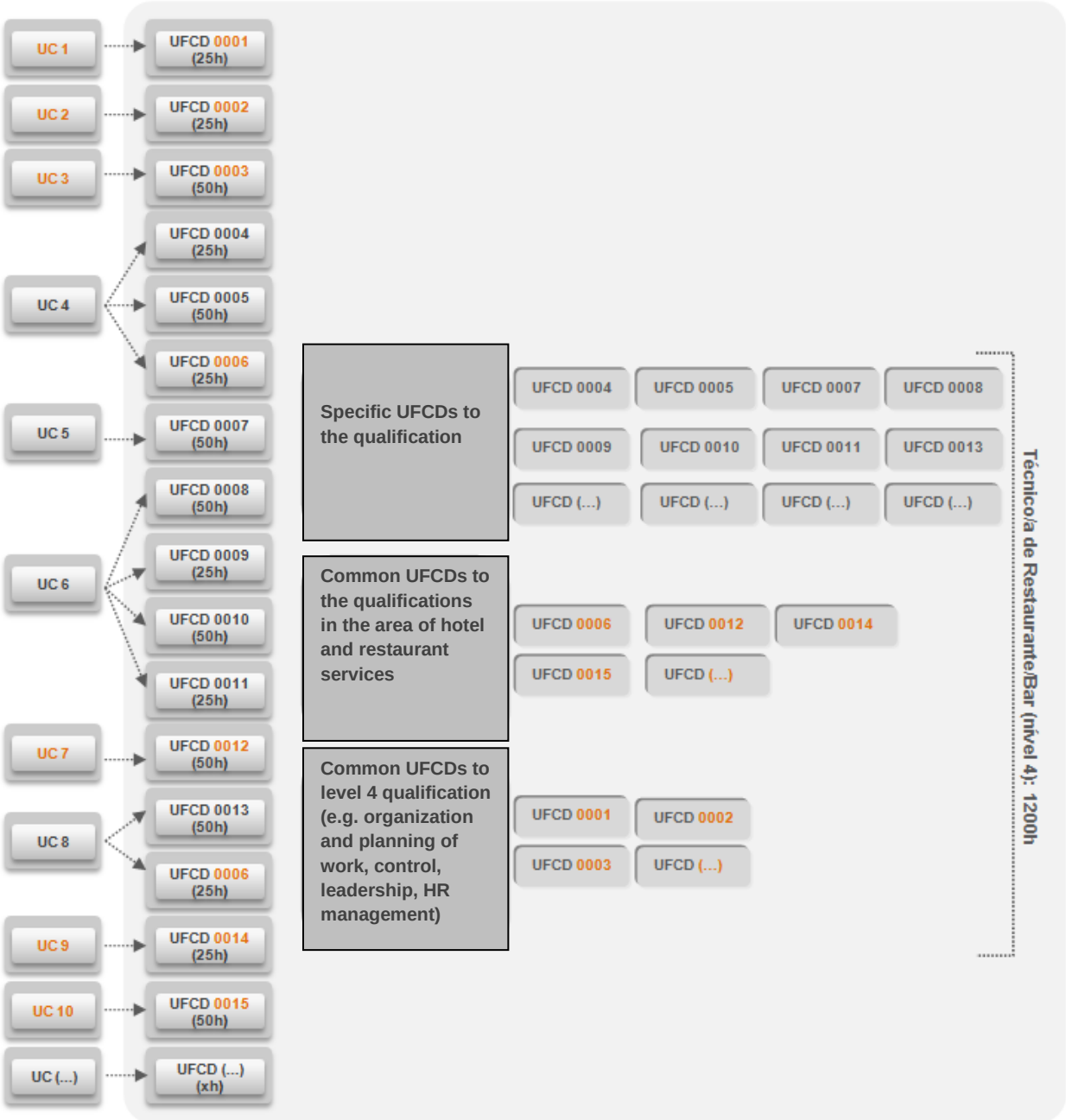
Figure 20. Example of correspondence between UC/UFCD



As figure 21 illustrates, a UC may correspond to a single UFCD or to a number of UFCDs. This comes from the fact that there is no "ideal" dimension established for a UC. Therefore, in the same competence standard there may be UCs of different sizes.

Figure 21. Correspondence between UC/UFCD

Restaurant / Bar Technician (level 4): 1200h



The third part of the Methodological Guidebook is structured in three points:

- Definition of a UFCD, its constitutive elements, basic principles and associated technical requirements;

- Design phases of a UFCD; and

- Types of UFCDs and configurations of training standards.

3.1. Definition of Short-term Training Unit, constitutive elements, basic principles and technical requirements

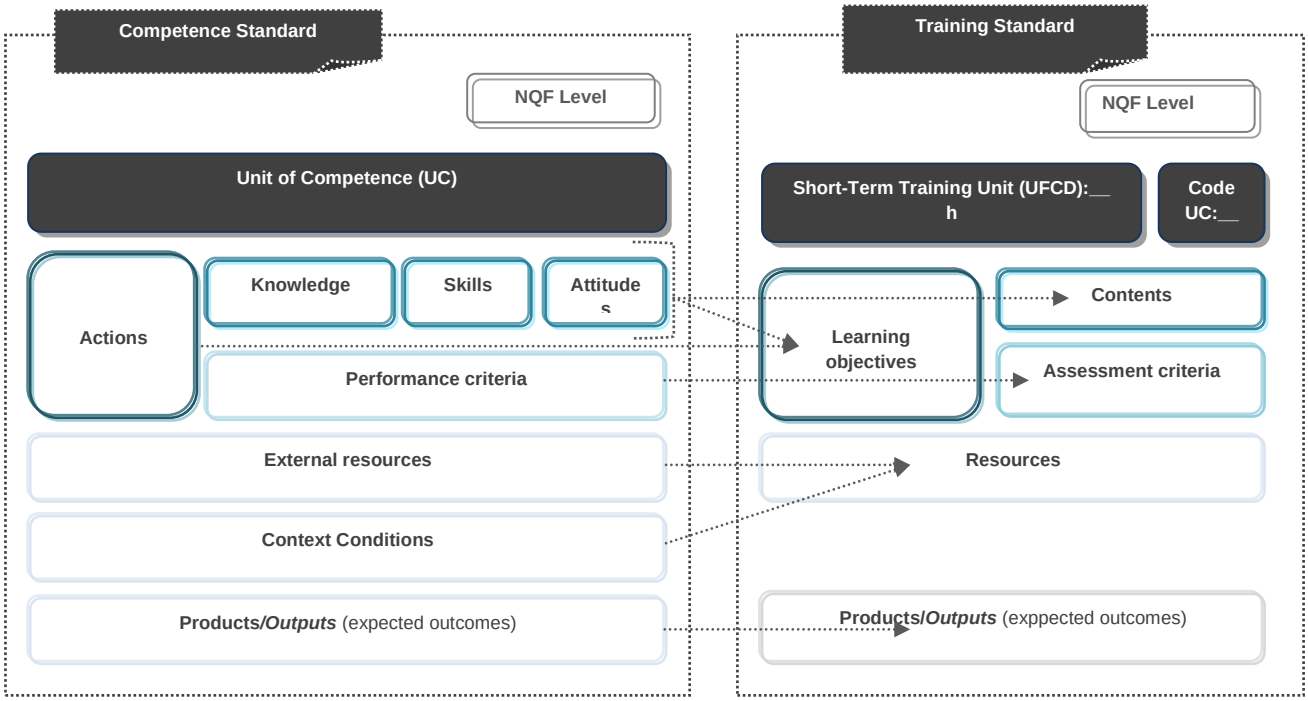
A UFCD is a structured set of learning objectives and contents with a pedagogical sequence. It also includes evaluation criteria, necessary resources and products (learning evidence). The learning objectives and contents refer to the learning outcomes that are expected to be achieved.

Each UFCD consists of several elements:

- *Learning objectives* – what the trainees should know and be able to do after having completed a learning process;
- *Contents* – knowledge, skills and/or attitudes necessary to achieve the learning objectives;
- *Evaluation criteria* – "the characteristics considered adequate by the evaluator as to make judgements on the object of evaluation under analysis. It will be based on these criteria that the indicators that help evaluate whether these criteria have been met and to what extent will be identified" (Cardoso, 2003);
- *Resources* – resources that must be used to achieve the defined learning objectives;
- *Products/outputs* – concrete outcomes obtained in terms of produced outputs resulting from performance. They help evaluate whether the performance was delivered based on the defined criteria. They are obtained products and/or demonstrated evidence.

Figure 22 exemplifies the constitutive elements of a UFCD, considering its correspondence with the respective UC.

Figure 22. Correspondence between the constitutive elements of the UC and the UFCD



The design of the UFCDs must take the following principles into account:

- *Autonomy*. UFCDs must be designed with a high degree of autonomy, considering the possibility of autonomous certification and capitalisation for one or more qualification paths;
- *Pertinence and adequacy*. The set of proposed UFCDs for the technological component of a given training standard must respond and correspond to the associated competence standard;
- *Transversality and transferability***.** There should be the possibility to adopt existing UFCDs whenever these meet the same needs of competence and can be transferred from one path to another inside and/or out of the education and training area or of the activity sector in question;
- *Exclusivity and differentiation***.** The learning objectives must be distinct, i.e., two UFCDs which meet the same competence requirements, even though they may have different designations, should not be created;
- *Specificity*. Whenever necessary, UFCDs should allow or facilitate access to specific certifications required by the industry or sector of activity, namely in the cases where the qualification is associated with a profession or with one or more regulated activities. In this case, one must guarantee the connection between the UFCD or UFCDs and the training required by the competent authority that regulates access to a profession;
- *Complexity and depth*. UFCDs comprise training pathways related to different levels of qualification. Therefore, the learning objectives and contents must respond both to the level of complexity and to the competence requirements associated with a given NQF qualification level;
- *Clarity and legibility*. Defining the designation of the UFCD must adopt clear terminologies, which will allow for a better interpretation and understanding by the common citizen, training providers and the labour market. The UFCDs express what should be demonstrated when a trainee is evaluated (learning outcomes)

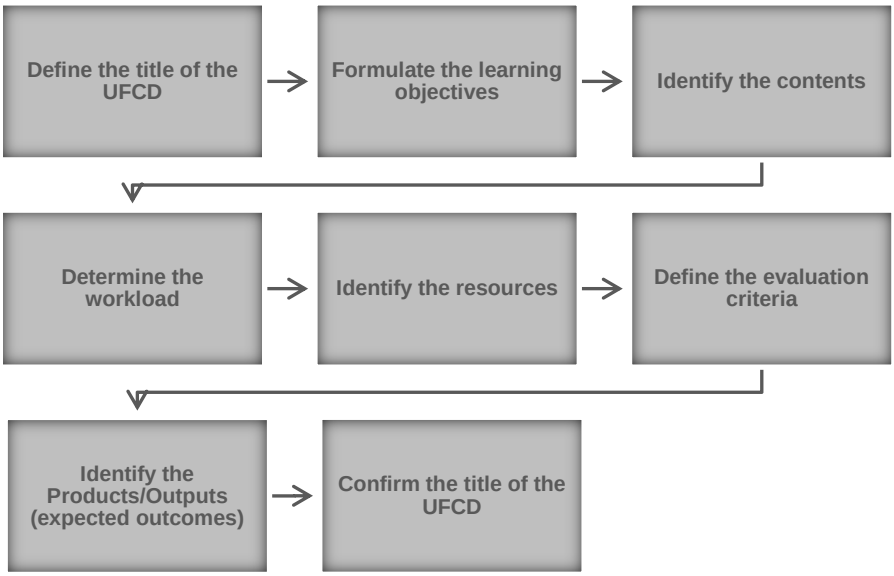
that is why it is fundamental to use clear language which brings the education and training system closer to the labour market.

Some of the principles described above must not be observed by themselves. In other words, the design of a UFCD must mobilise several principles at the same time.

3.2. DESIGN PHASES OF A SHORT-TERM TRAINING UNIT

The design of a UFCD is based on a set of inter-connected phases, in accordance with the information in figure 23.

Figure 23. Design phases of a UFCD



1st phase– Define the title of the UFCD

The title of the UFCD shall have as support or reference the title of the original UC. As it is a learning module to be applied in training contexts, the UFCD should not use an action verb. Therefore, the title of a UFCD must reflect what is to be taught and the corresponding context of application, enabling broad and clear reading.

Figure 24. Example of a UFCD[10]:

UFCD w. Cooking delicacies in the dining room

[10] Even though the example of unit of competence presented in this guidebook may have 3 UFCDs associated, it was decided that only one UFCD should be illustrated.

Giving clear, accessible, concise and legible titles allows better communication and reading by its potential users, and enables more simplified and adaptable research of different UFCDs in the CNQ.

Besides, the titles used should leave no room for doubt regarding the operational context of the UC, especially when these are limited to very specific areas of intervention, such as, the hotel and restaurant services.

In the case of UFCDs associated with UCs aimed at recognised activities and/or regulated by the industry or sector of activity, the titles must correspond to the required certifications so that they are valued by the labour market.

It can be concluded that the title represents the UFCD brand and therefore it must be appealing and easy to understand by all.

2nd Phase – Formulate the learning objectives

The definition of the learning objectives must begin with the actions and the learning outcomes of the UC (knowledge, skills and attitudes). Therefore, there is a strong relationship between the actions and the learning outcomes of the UC and the learning objectives of the corresponding UFCD or UFCDs; for this reason the learning objectives must also be subject to evaluation.

A learning objective, besides being able to be evaluated (possible to verify if it was achieved), must also be achievable (individuals must also be able to achieve it according to the available resources), appropriate (adapted to the level of knowledge and competence required from the individual), understandable (both the individual and the training provider must understand what it means) and visible (it must be clear in the set of UFCDs).

A learning objective which has all these characteristics in its formulation facilitates communication between the different actors (individuals, training providers, among others) and identifies the outcomes expected to be achieved.

Therefore, the learning objectives must be worded in a clear manner by adopting verbs in the infinitive. The verbs listed in table 3 can be taken into consideration to define learning objectives.

Table 3. Example of verbs to be adopted in the designing of learning objectives

Types of learning	Appropriate Verbs	
Attitudes, values, emotions, feelings	Decide	Match
	Analyse	Advise
	Access	Mediate
	Criticise	Reject
	Choose	Obey
	Select	Join
	Evaluate	
Behaviour, motor activity, handling	Do	Write
	Construct	Count
	Copy	Design
	Develop	Repair
	Operate	Transport
	Handle	Observe

	Speak	Use
	Taste	Assemble
	Process	Adjust
	Prepare	Introduce
Knowledge, thought	Compare	Enumerate
	Identify	Report
	Name	List
	Recognise	Quote
	Relate	Associate
	Reproduce	Classify
	Define	Describe
	Differentiate	Explain
Inappropriate verbs	Think	Learn
	Understand	Believe
	Know	Possess
	Believe	Have
	Be	Judge
	Value	Idealise

Source: IQF, 2004

As a rule, considering the dimension and the fact that the description of the learning objectives should not be made in an exhaustive and detailed way (expressing general objectives), the maximum limit of four learning objectives can be used as reference. This maximum limit is only a reference, considering that the UFCDs may only have a workload of 25h or 50h, for example:

Figure 25. Example of Learning Objectives

Learning objectives

- **Prepare different delicacies in the dining room in front of the client.**
- **Cook different delicacies in the dining room in front of the client.**
- **Plate up different delicacies in the dining room in front of the client.**

It is also important to note that the learning objectives will determine the nature of the UFCD or UFCDs (theoretical, theoretical-practical or practical) and therefore, there may be UFCDs that result more directly from the actions or from each of the domains of the learning outcomes (from knowledge or skills or attitudes). If the learning outcomes of a given UFCD are formulated on the bases of knowledge and cognitive skills, then it will be a more theoretical UFCD.

3rd Phase – Identify the contents

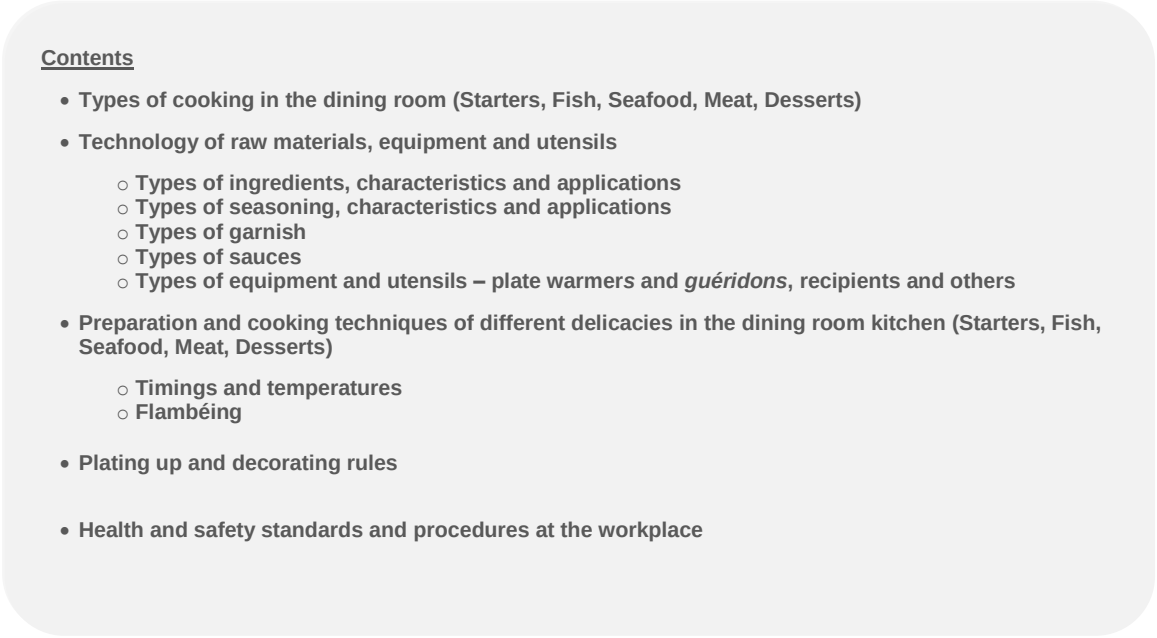
The definition of the contents aims to achieve the learning objectives identified within the scope of the UFCD or UFCDs. This way, to each learning objective should correspond one or various contents, which may be divided into sub-contents.

Considering the correspondence between learning objectives and contents, the drafting of the contents must begin with the learning outcomes of the UC (knowledge, skills and attitudes).

The drafting of the learning objectives must be clearly differentiated from the contents, i.e., objectives like "to do things (…)" should not have in the description of contents the deeds, but rather the "techniques" associated with "doing things".

Subsequently, contents must be clearly and precisely described, in order to respond to all learning objectives and at the same time to guarantee sufficient flexibility to enable their appropriate management in different training contexts.

Figure 26. Example of Contents



However, sufficiently comprehensive contents should be taken into account, so as:

- Not to lose relevance in the labour market, enabling, whenever possible, their use in different sectors of activity;
- Not to mention specific standards or legislation, as these may quickly become outdated. In these cases, expressions like "current applicable legislation" should be used;
- Not to be described with too much detail, so that they may be subdivided into sub-contents up to a maximum of three subsequent levels.

4th Phase – Determine the workload

The dimension of a UC influences the duration of the corresponding UFCD or UFCDs. Thus, one or more UFCDs may correspond to a UC.

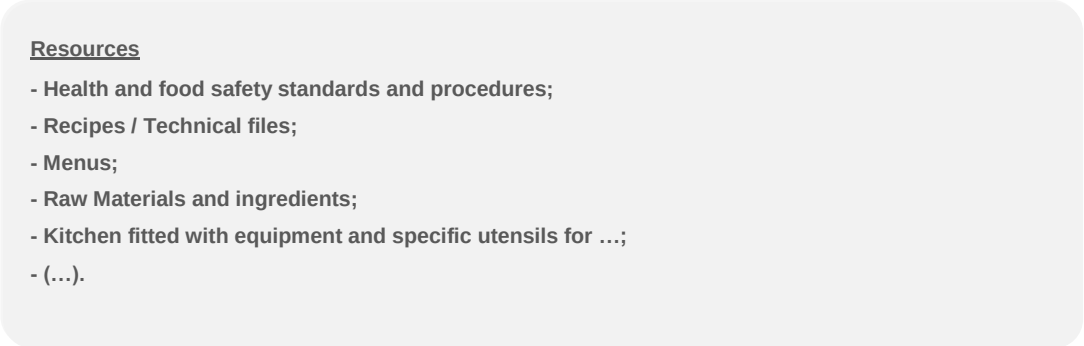
Subsequently, the workload will determine the dimension and the extent of the UFCD and, in some cases, its comprehensiveness. In this context, one should take into consideration the type, the nature and the complexity of the learning objectives, as well as the necessary time to acquire the corresponding contents, which is a crucial factor for determining the workload.

UFCDs may only have a workload of 25h or 50h.

5th Phase – Identify the resources

Within the scope of the UFCD the necessary resources must be identified in order to enable achieving the identified learning objectives. These resources involve support documentation, bibliography, materials/equipment (an important element in the case of regulated activities), protocols, legislation, technical files, among others.

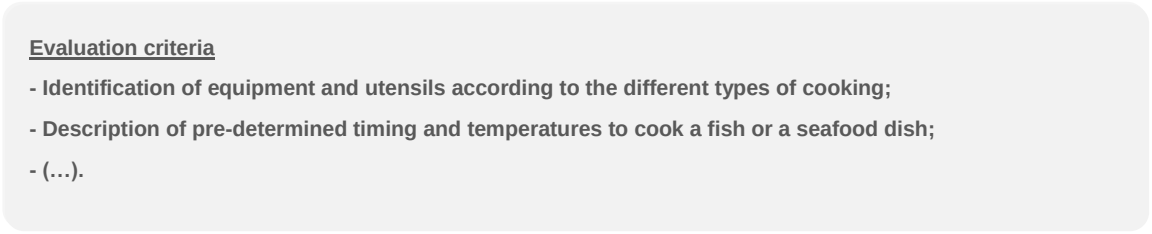
Figure 27. Example of Resources



6th Phase – Define the evaluation criteria

The evaluation criteria of the UFCD result from the performance criteria of the UC. These specify what should be the object of evaluation, as well as the required level of performance. Only this way is it possible to evaluate not only the scope of the proposed learning objectives, but also the adequacy and quality of the performance in accordance with the expected result.

Figure 28. Example of Evaluation Criteria



7th Phase – Identify the products/outputs

This phase refers to the outcomes expected to be achieved based on the defined learning outcomes.

The identified products/outputs may vary in nature: associated with a specific product (for example, cooking a main dish, a dessert, among others) or with a performance evidence (for example, the application of food handling and treatment techniques). For example, in the area of cooking delicacies, the individual shows the achieved result by presenting the meat or fish dishes, thereby demonstrating the acquisition and development of techniques, procedures and knowledge associated with its performance (learning evidence).

Figure 29. Example of Products/Outputs

Products */outputs*

- Fish and seafood dishes;
- Identification of dietary composition, nutritional value and food origins;
- (...).

8th Phase – Confirm the title of the UFCD

In this phase the appropriateness of the title proposed in the first phase (albeit sometimes preliminary) must be decided. In addition to the aspects mentioned in the first phase, it is important that the UFCD is described comprehensively covering all the learning objectives and corresponding contents.

In this phase the title proposed in the first phase may be kept or it may be necessary to review it, for it to serve its purposes and is adequate to the context of application.

3.3. Types of Short-Term Training Units and configurations of training standards

The type of the UC, the configuration and the design of the competence standards will determine the type of the UFCD, as well as the configuration of the corresponding training standards. Thus, there may be:

- **Mandatory UFCDs** that correspond to the mandatory UCs (nuclear) of the competence standard which constitute the core of the qualification;

- **Optional UFCDs from the pool** that, despite not being nuclear, enable achieving that same qualification (within a previously established limit);

- **Free optional UFCDs** which may be an added value even though they are not part of the qualification (within a given limit, the individual is free to choose from the UFCDs to complete the qualification).

The mandatory UFCDs (nuclear), the optional UFCDs (non-nuclear) from the pool and the free optional UFCDs (non-nuclear) may be **specific** to a qualification or **common** to two or more qualifications, as in the case of the UCs.

However, the common UFCDs may have different positions in the technological component of the training standards, similarly to the common UCs in the competence standards. Therefore, the same UFCD may be mandatory (nuclear) in a given training standard and optional, for example integrated in the pool of another training standard. Its positioning depends on whether it is or is not a central competence in the qualification.

Common UFCDs are transferable to other contexts, as they respond to the same competences and to the same learning objectives.

Figures 30, 31, 32 and 33 represent structuring models of the technological component of a training standard, always based on the configuration of the corresponding competence standard.

Figure 30. Closed model: mandatory UFCDs (nuclear)

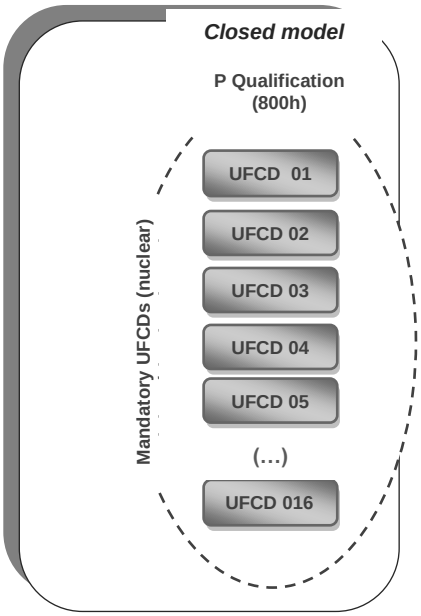


Figure 31. Flexible model: mandatory UFCDs (nuclear) + optional UFCDs (non-nuclear) from the pool

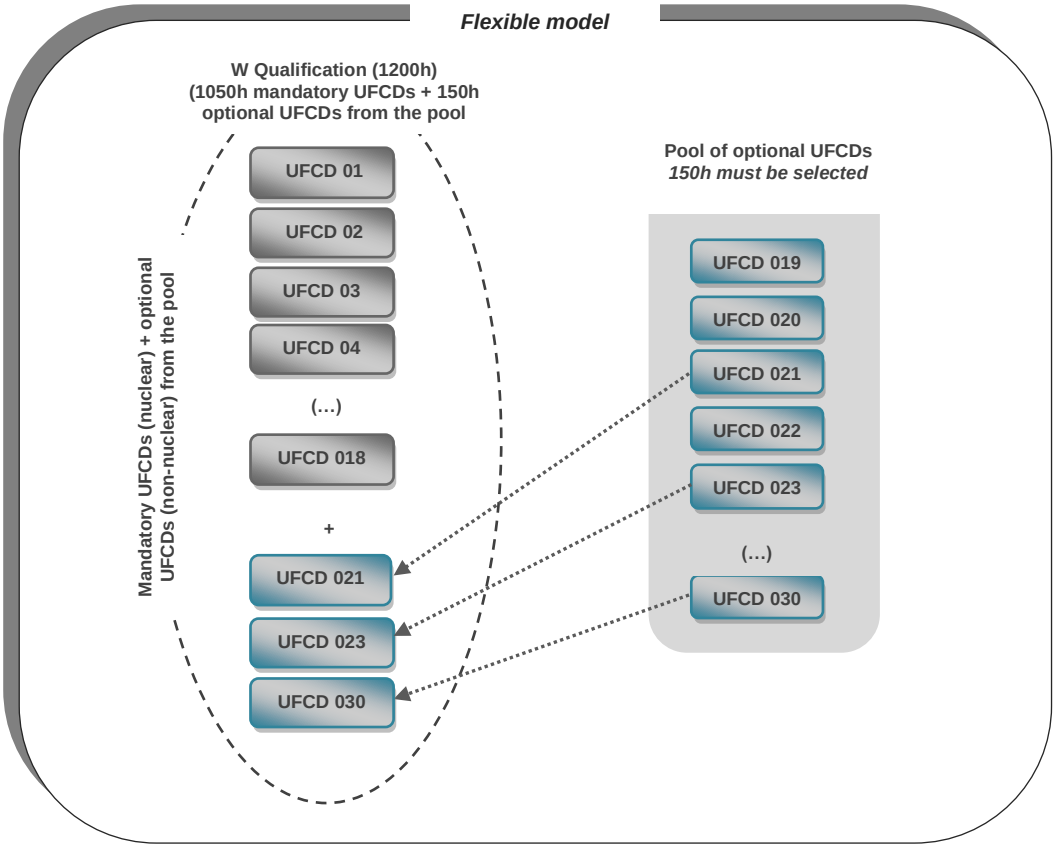


Figure 32. Flexible model: mandatory UFCDs (nuclear) + "free" optional UFCDs (non-nuclear)

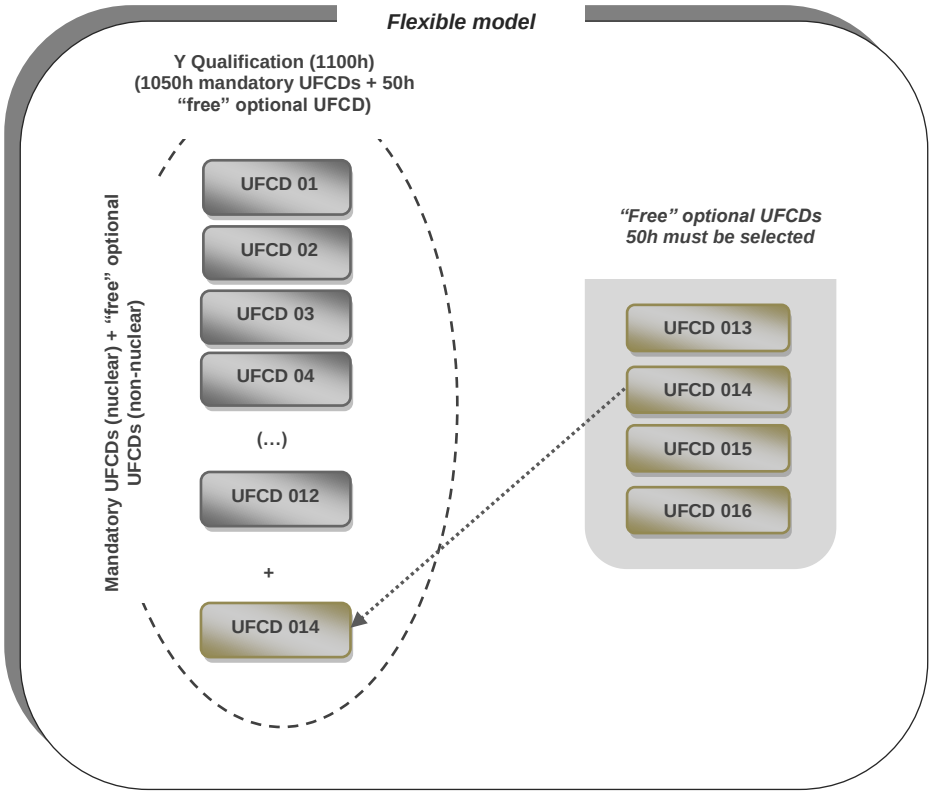
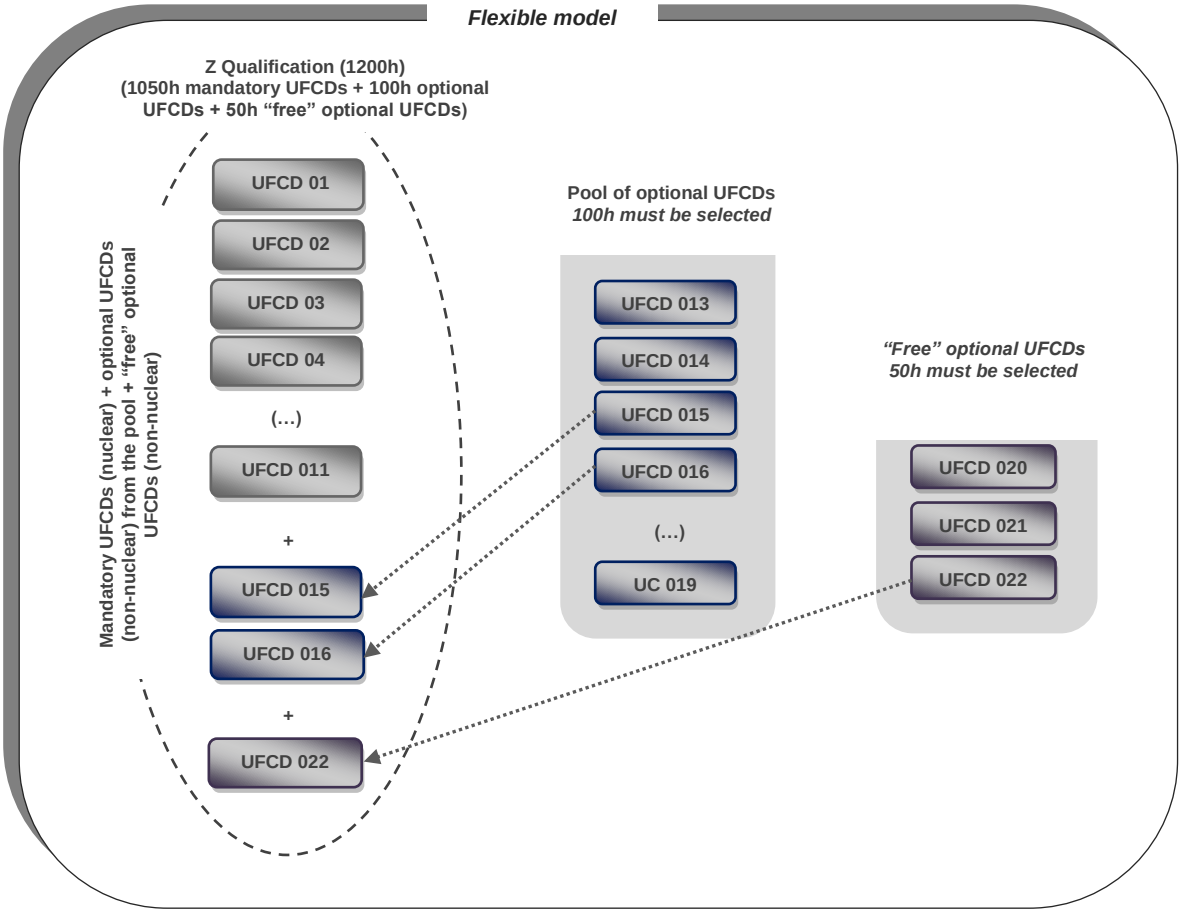


Figure 33. Flexible model: mandatory UFCDs (nuclear) + optional UFCDs (non-nuclear) from the pool + optional UFCDs (non-nuclear)



The implementation of flexible models aims at better matching of the training provision to more particular needs related to various contexts (territorial, regional and corporate).

The set of mandatory UFCDs (nuclear) that constitute the fixed core of the qualification must represent 80% to 90% of the total workload; and the remaining 10% to 20% shall be the optional UFCDs (non-nuclear) of the pool.

For example, when obtaining level 4 qualification of the NQF, besides the 1050 hours (88%) corresponding to the set of mandatory UFCDs (nuclear), another 150 hours (12%) must be attended as optional UFCDs (non-nuclear) selected from the pool, in order to make up the total workload of 1200 hours (100%).

There is no maximum workload for optional UFCDs to make up the pool. The definition of that workload is associated with the required optional UFCDs (to be selected from the pool) to make up the total workload for the technological component of the training standard.

The workload percentage of the optional UFCDs from the pool must also have an effect in the selection of the free optional UFCDs.

In the structuring of the technological component of the training standards it is also important to ensure the duration limits of the workload of level 2 NQF qualifications (between 800h and 1000h), level 4 NQF qualifications (between 1000h and 1200h) and level 5 NQF qualifications (Decree-Law no. 88/2006, of 23 May – Technological Specialisation Courses).

GLOSSARY

Skill –"The ability to apply knowledge and use the acquired resources to complete tasks and solve problems. It may be cognitive (use of logical, intuitive and creative thinking) or practical (implying manual skill and the use of methods, materials, tools and instruments)" (Ordinance no. 782/2009, of 23 July).

Attitude - "The ability to develop tasks and solve problems of a higher or lower degree of complexity and different degrees of autonomy and responsibility" (Ordinance no. 782/2009, of 23 July).

National Catalogue of Qualifications – "Dynamic tool for the strategic management of non-higher qualifications, essential for the competitiveness and modernisation of enterprises and the productive sector and for the personal and social development of the individual. The National Catalogue of Qualifications integrates qualifications based on competences, identifying for each one the corresponding competence standard, training standard and the National Qualifications Framework qualification level" (Decree-Law no. 396/2007, of 31 December).

Competence - "The proven ability to use knowledge, skills and attitudes at work, in professional development, in education and in personal development" (Decree-Law no. 396/2007, of 31 December).

Context conditions – The different actions/acts in a given space and time and in a specific situation, i.e., in context.

Knowledge – "The collection of facts, principles, theories and practices related to the field of studies or professional activity" (Ordinance no. 782/2009, of 23 July).

Contents – They are the required knowledge, skills and/or attitudes necessary to achieve the learning objectives.

Evaluation criteria – "(...) the characteristics considered adequate by the evaluator as to make judgements on the object of evaluation. It will be based on these criteria that the indicators that help evaluate whether these criteria have been met and to what extent will be identified" (Cardoso, 2003).

Performance criteria – Quality requirements of the UC associated with performance, i.e. quality standards by which the individual is considered competent (quality level that the actions must have).

ECVET – Common technical framework aimed at transferring, recognising and accumulating learning outcomes in a context of mobility for the purposes of obtaining a qualification.

EQAVET – Instrument to be voluntarily adopted by the Member States that helps them document, develop, monitor, evaluate and improve the efficiency of the Vocational Education and Training provision and the quality of management practices.

Training modality – "Organisation of a training pathway with its specific characteristics (namely objectives, target group, curricular structure, methodology and length)" (Decree-Law no. 396/2007, of 31 December).

Dual certification training module – "Learning unit, subject to autonomous certification and integration in one or more training pathways referenced to the National Catalogue of Qualifications, thus enabling the acquisition of certified competences" (Decree-Law no. 396/2007, of 31 December).

Learning objectives – What the trainees should know and be able to do after having completed a learning process;

ECVET points – The numerical representation of the overall weight of the learning outcomes in a qualification process and of the relative weight of each UC in relation to the qualifications.

Products/outputs – Concrete outcomes obtained in terms of produced outputs resulting from performance. They help evaluate whether the performance was delivered based on the defined criteria. They are the obtained products from the demonstrated evidence.

European Qualifications Framework – Common European reference framework which enables corresponding qualifications systems across countries, functioning as a tool for the translation/comparison of qualification levels of those countries and making the qualifications clearer and more understandable across systems at national and international level (promoting transparency).

National Qualifications Framework – "An instrument for the classification of qualifications according to a set of criteria for specified levels of learning achieved, which aims to integrate and coordinate national qualifications subsystems and improve the transparency, access, progression and quality of qualifications in relation to the labour market and civil society" (Recommendation of the European Parliament and of the Council on the establishment of the EQF, April 2008).

Qualification – "The formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards" (Decree-Law no. 396/2007, of 31 December).

Actions – Actions through which the individual demonstrates s/he masters the UC, i.e., they are the subdivision of the UC into directly observable actions showing that the individual is competent.

Resources – The required resources to achieve the defined learning objectives.

External resources – Set of available resources which aid in the development of the foreseen actions.

Competence standard – "Set of competences required to obtain a qualification" (Decree-Law no. 396/2007, of 31 December).

Training standard – "Set of information which guides the planning and organisation of the training depending on the professional profile or on the respective competence standard, referenced to the National Catalogue of Qualifications" (Decree-Law no. 396/2007, of 31 December).

Learning outcomes – "Statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence (Recommendation of the European Parliament and of the Council on the establishment of the EQF, April 2008).

National Qualifications System – "All aspects of a Member State's activity related to the recognition of learning and other mechanisms that link education and training to the labour market and civil society. This includes the development and implementation of institutional arrangements and processes relating to quality assurance,

assessment and the award of qualifications. A national qualifications system may be composed of several subsystems and may include a national qualifications framework (Recommendation of the European Parliament and of the Council on the establishment of the EQF, April 2008).

Unit of competence – Coherent combination of learning outcomes, subject to evaluation and autonomous validation.

Short-term training unit – Structured set of learning objectives and contents with a pedagogical sequence, including evaluation criteria, necessary resources and products (learning evidence).

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ANNEXES – MODELS

UC Model

UC Code UC_XXX				
Title of the Unit of Competence To perform kitchen duties in the dining room in front of the client				**NQF Level**
Actions Prepare different delicacies in the dining in front of the client.	**Knowledge** • Fundamental knowledge of technical and safety standards of table service; • Fundamental knowledge of raw-materials, equipment and utensils; • Fundamental knowledge of food handling procedures; • Fundamental knowledge of food safety and hygiene standards.	**Skills** • Organise the area, equipment and utensils depending on the delicacies to be cooked in the dining room in front of the client; • Identify the different types of food, their nutritional and dietary characteristics; • Apply food safety and hygiene standards.	**Attitudes** • Demonstrate organisational skills; • Team work; • Demonstrate care and attention ensuring correspondence between the orders and the corresponding service; • Demonstrate capacity for (restricted) autonomy and initiative; • Demonstrate ability to adapt to new equipment, technology and utensils; • Comply with food safety and hygienestandards.	**Performance criteria** • Selecting the foods, the equipment and the utensils according to the technical file/menu and the preparation procedures; • Applying food handling and treatment techniques according to its type and to food safety and hygiene standards.
Cook different delicacies in the dining room in front of the client.	• Deep knowledge techniques of preparing different delicacies in the dining room in front of the client; • Fundamental knowledge of delicacies prepared in dining room in front of the	• Apply food handling techniques; • Apply cooking techniques of different delicacies in the dining room in front of the client; • Apply food safety and hygiene standards.	• Demonstrate responsibility in the use of furniture, equipment and utensils; • Comply with nutritional and dietary principles; • Demonstrate (restricted) ability to be autonomous; • Comply with food safety	• Using the equipment and utensils according to the different types of preparation; • Ensuring nutritional and dietetically balanced dishes; • Applying food handling and treatment techniques according to its type and to food safety and hygiene standards; • Controlling timing and temperatures according to the used cooking techniques.

	client; • Fundamental knowledge of food characteristics, their dietary composition, nutritional value and origins; • Fundamental knowledge of food handling procedures; • Fundamental knowledge hygiene and food safety standards.		and hygiene standards.	
Plate up and decorate different delicacies in the dining room in front of client.	• Deep knowledge techniques of plating up and decorating different delicacies in the dining room in front of the client; • Fundamental knowledge of food handling procedures; • Fundamental knowledge of hygiene and food safety standards.	• Apply food handling techniques; • Creatively apply plating up and decorating techniques; • Apply food safety and health standards.	• Comply with plating up and decorating rules; • Demonstrate a sense for aesthetics when presenting different delicacies; • Comply with food safety and hygiene standards.	• Applying food handling and treatment techniques according to its type and to food safety and hygiene standards; • Applying plating up and decorating techniques in accordance with established rules.
Present and Serve different delicacies	• Deep knowledge techniques of waiting on at a table in dining room kitchen in front of client; • Deep knowledge on waiting on the client; • Fundamental knowledge of hygiene and food safety standards; • Fundamental knowledge of rules for hygiene care and personal presentation; • Fundamental knowledge of rules for dealing with complaints; • Expert knowledge for service protocol; • Basic knowledge on eating habits and cultures.	• Apply service techniques in dining room kitchen in front of the client; • Identify and propose solutions for dealing with complaints; • Apply communication techniques; • Provide information to the clients.	• Comply with the technical standards and protocols for service in the dining room kitchen in front of client; • Demonstrate the ability to active listening when interacting with the client; • Demonstrate the ability to solve problems resulting from the clients' requests and complaints; • Communicate with varied interlocutors; • Comply with food safety and hygiene standards.	• Waiting on the clients in accordance with the established protocol; • Informing the clients, when requested, about the ingredients and the cooking process of the different delicacies; • Communicating with the client in order to establish the necessary interaction and understanding so as to improve the service and the level of satisfaction; • Proposing solutions for problems arising from requests or possible complaints from the clients.

External resources

- Food safety and hygiene standards and procedures;
- Technical and safety standards for serving food at table;
- Technical and protocol standards for service;
- Recipes/Technical files;
- Menus;
- Raw materials and ingredients;
- Restaurant/bar equipment;
- Devices for the circulation of information;
- **(…).**

Context conditions

- Kitchen fitted with specific equipment and utensils for …;
- Dining room/bar fitted with specific equipment and utensils for …;
- Technical files of an "x" type of restaurant;
- Menus of an "x" type of restaurant;
- (…).

Products/Outputs

- Fish and seafood dishes;
- Desserts (fruit and sweets);
- Client service in the dining room kitchen.
- (…).

UFCD Model

UFCD Code	**UC Code**
UFCD w.	UC_XXX

Title of the UFCD

Cooking delicacies in the dining room

Learning objectives

- Prepare different delicacies in the dining room in front of the client.
- Cook different delicacies in the dining room in front of the client.
- Plate up different delicacies in the dining room in front of the client.

Contents

- Types of cooking in the dining room (Starters, Fish, Seafood, Meat, Desserts)
- Technology of raw materials, equipment and utensils
    - Types of ingredients, characteristics and applications
    - Types of seasoning, characteristics and applications
    - Types of garnish
    - Types of sauces
    - Types of equipment and utensils – plate warmers *and guéridons*, recipients and others
- Preparation and cooking techniques of different delicacies in the dining room kitchen (Starters, Fish, Seafood, Meat, Desserts)
    - Timings and temperatures
    - Flambéing
- Plating up and decorating rules
- Health and safety standards and procedures at the workplace

evaluation Criteria

- Identification of equipment and utensils according to the different types of cooking;
- Description of pre-defined timing and temperatures to cook a fish or a seafood dish;
- (…).

Resources

- Hygiene and food safety standards and procedures;
- Recipes/Technical files;

- Menus;
- Raw-materials and ingredients;
- Kitchen fitted with equipment and specific utensils for …;
- (…).

PRODUCTS / OUTPUTS

- Fish and seafood dishes;
- Identification of dietary composition, nutritional value and food origins;
- (…).