Latin American Consensus for the Internationalization in Postgraduate Education

CONSENS Project

Guidelines for learning outcomes, competences, credits and quality assurance in postgraduate programs

Deliverable 2.4

INDEX

1. Introduction

The objectives of the Latin American Consensus for the Internationalization in Postgraduate Education -CONSENS- project are:

General objectives
1) To contribute to the development of sustainable and inclusive socioeconomic growth in the countries of Latin America, through better trained professionals working in private and public areas committed to such growth, by improving the quality of postgraduates (masters and doctorates) in the framework of a greater internationalization of LA HEIs and a greater educational integration of the countries of the region, driven by MERCOSUR.
2) To create, develop and sustain a Latin American network (CONSENS network) of Ministries of Education and Universities, both public and private ones, with the aim of contributing to the internationalization of postgraduate education, by means of the consensus on standards related to substantial variables linked to student-centered learning – learning outcomes, competencies and credits – and quality assurance, not only to be applied in the postgraduate programmes provided by the universities that take part in the project but to be also used as a common platform, which will be continuously updated, for all those countries and universities who wish to internationalize their postgraduate programs. Such space will be constantly open to the incorporation of Ministries of Education and Universities from other Latin American countries who wish to contribute to the accomplishment of the objectives of the network.
3) To cooperate with any other initiative aimed at improving quality and promoting the internationalization of higher education in Latin America.

Specific objectives
1) To agree upon and develop, for master's and doctorate degrees of at least one area to be determined, standards for learning outcomes, competencies, credits and quality assurance;
2) To apply CONSENS standards in at least one postgraduate career to be provided by each of the partner universities.
3) To develop an instrument to categorize, qualify, monitor and evaluate the contribution of master's degrees with CONSENS curricular modifications, to the internationalization of higher education institutions.

4) To categorize, qualify, monitor and evaluate the principal variables of student-centered learning (SCL: learning outcomes, competencies, credits) and quality of postgraduate programmes.

The agreed standards and their implementation in postgraduate degrees will be put into effect in such areas which are strategic to the socioeconomic development of the countries which are part of the project. In order to achieve the specific objectives, such areas were defined by the participating organizations, upon the basis of a situational diagnosis which is part of the first set of activities carried out by the "Latin American Consens for the Internationalization in Postgraduate Education".

In the framework of the above mentioned objectives, Workpackage (WP) N° 2 deals with experience exchange among the universities of the consortium. Transfer of good practices and lessons learnt from European universities, related to the key variables approached by the project: student-centered learning (learning outcomes, competencies and credits) and the quality of postgraduate degrees, and their contribution to the improvement of the internationalization of postgraduate education.

- To transform the curricula of the postgraduate degrees chosen by the Latin American universities (CONSENS degrees) from a content-based curriculum into one based on competencies;
- To contribute to the improvement of the internationalization of postgraduate education of LA universities.

The Deliverable N° 2.1. is directly related to the activity 1.1, due to be developed and disseminated through the project platform during months the months 5 and 6 of the project: "Elaboration of a catalogue of good practices and lessons learnt in European countries, with respect to student-centered learning (learning outcomes, competencies, credits) and the quality of postgraduate degrees", mainly in terms of methodology for:
- To reach the necessary agreements on said definitions and standards;
- To transform the curricula of the postgraduate degrees chosen by the LA HEIs (CONSENS degrees) from a content-based curriculum into one based on competencies.

Co-funded by the
Erasmus+ Programme
of the European Union

2. Student-centered learning

Student-centered learning (SCL) gained political recognition in the Bologna Process agreements in 2009 through the Leuven/Louvain-la-Neuve Ministerial Communiqué: *We reassert the importance of the teaching mission of higher education institutions and the necessity for ongoing curricular reform geared toward the development of learning outcomes. Student-centred learning requires empowering individual learners, new approaches to teaching and learning, effective support and guidance structures and a curriculum focused more clearly on the learner in all three cycles. Curricular reform will thus be an ongoing process leading to high quality, flexible and more individually tailored education paths. Academics, in close cooperation with student and employer representatives, will continue to develop learning outcomes and international reference points for a growing number of subject areas. We ask the higher education institutions to pay attention to improving the teaching quality of their study programmes at all levels. This should be a priority in the further implementation of the European Standards and Guidelines for quality assurance.*

SCL, despite its popularity, is still a notoriously vague notion in the education world. Moreover, student-centered learning is often interpreted in a diverse and contradictory way. The best indicator of the vagueness of student-centered learning is that no one argues strongly against it. Its opposite, teacher-centered learning, has been, in many ways, a stereotype of the method of providing higher education since its inception, although today it is considered ineffective to meet the needs of increasingly diverse student populations. It is also possible that no one may argue against SCL for the obviousness it represents in opposition to teacher-based learning.

In practice, student-centered learning (teaching) is an approach that is talked about and used more. Not as a single teaching method, but as a group of several methods that focus on the students that are learning. It changes the role of the teacher, who becomes an information provider that facilitates student learning. Traditional teaching often treats students as passive learners who do not take responsibility for their own learning. **Student-centered learning puts all the emphasis on the person who learns**.

SCL is a **process of qualitative transformation** for students and other learners in a learning environment, aimed at **enhancing their autonomy and critical ability through a result-based approach**.

The SCL concept can be summarized into the following elements:

1) Reliance on **active learning** rather than passive learning;
2) Emphasis on **critical and analytical learning** and understanding;
3) **Increased autonomy of the student**: increased responsibility and accountability on the part of the student;
4) **Reflective approach to the teaching and learning processes** on the part of both the student and the teacher.

1) **Reliance on active learning rather than passive learning**.

It is about getting students more involved in the learning process. In traditional education, in most classes, teachers work much more than students. With active learning, students must solve problems, answer questions, ask their own questions, discuss, explain, debate, or create a brainstorm. The following are part of active learning:

- **Collaborative learning**, in which students work in teams using ICT tools in conditions that ensure positive interdependence and individual responsibility. SCL and active learning encourage collaboration among students and with the teacher. Teachers have the experience and the obligation to share their knowledge, but they also learn from students. Teachers work to develop structures that promote shared commitments for learning.
- **Inductive learning**, in which students face challenges (questions or problems) and learn the contents of the educational program in the context of dealing with projects and challenges. Inductive methods include learning based on collaborative problem solving.
- **Evaluation as part of learning**: student-centered learning uses evaluation as part of the learning process. Some evaluation tools with this orientation are: rubrics, e-portfolio and other ICT tools.

With this type of practice, students can develop more sophisticated skills beyond knowledge.

2) **Emphasis on critical and analytical learning and understanding**.

In the framework of student-centered learning, students learn to think, solve problems, make decisions, work in teams, analyze arguments, generate hypotheses, etc. All of them are common skills to manage the contents of the various subjects.

It is not assumed that students will acquire these skills on their own, automatically. Some students do, but not all. The skills included in a given learning develop faster if they are explicitly put into action along with the presentation of the content.

3) Increase in the autonomy of the student: increased responsibility and "accountability" by the student.
Teachers encourage students to accept responsibility in making decisions about learning. Students have the opportunity to reflect, analyze and criticize what they are learning and how they are learning it. The goal is to make students **aware of themselves as students and of the importance of achieving the learning objectives**.
SCL motivates students by giving them some control over the learning processes. Student-centered pedagogies look for ways to share responsibility with students, giving them the opportunity to set deadlines, set evaluation criteria, and participate in peer evaluation.

4) Reflective approach to the teaching and learning processes on the part of both the student and the teacher.
Student-centered learning invites students and teachers to reflect together on what students are learning and how they are learning. In conversations, students write (in the e-portfolio or diary) about what they have learned, what the difficulties and strengths throughout the process are.

There is a consensus that SCL is not limited to certain educational methodology. It is rather a **cultural shift** in Higher Education Institutions (HEIs), specially **based on two pillars**:
1) The successful implementation of four tools consolidated through the **Bologna process**:
   a) European qualifications framework (EQF);
   b) European credit transfer system (ECTS);
   c) Quality assurance (QA);
   d) Diploma supplement (DS).
2) The support of the **constructivist theory of learning** to the active participation of students in:
   a) Learning outcomes (LO);
   b) Three related transversal competencies:
   - Problem solving;
   - Critical thinking;
   - Effective thinking.

2.1 Student-centered learning tools consolidated through the Bologna process

Essentially, there are four tools:
a) **European Qualifications Framework (EQF):**
b) **European Credit Transfer System (ECTS);**
c) **Quality assurance (QA);**
d) **Diploma Supplement (DS).**

a) European Qualifications Framework (EQF)
The Framework for Qualifications of the European Higher Education Area (EHEA), approved by European education ministers in 2005, in Bergen - Norway-, was an intergovernmental agreement within the Bologna Process designed to organize national higher education qualifications into an overarching - European- wide qualifications framework. This meta-frame, with a **three-cycle structure, was aimed at making the national frameworks of the EEEA comparable**.
Within this meta-frame, groups of experts defined **generic descriptors of the learning outcomes required in each of the three cycles**, always following the levels of **complexity and difficulty** of each cycle:
1. **First cycle: Bachelor**;
2. **Second cycle: Master**;
3. **Third cycle: Doctorate**.
That is, each of the three cycles has associated descriptors - the Dublin descriptors -, defined according to the learning outcomes. Dublin descriptors contain generic descriptions of the achievements made by students who have obtained a certain degree after successfully completing each of these cycles.

These descriptors include the **expected student workload, in terms of transferable credits, as well as the expected competencies from the education / training given**.
Following a process of adaptation in each of the European countries, which is still ongoing, the **generic descriptors of the required learning outcomes, which are the essence of the European framework for qualifications in the field of higher education**, have been, not without difficulties, applicable in all national contexts.

In the European Qualifications Meta-framework, each country of the EHEA, on the basis of Dublin generic descriptors, is expected to develop its own **specific descriptors** (learning outcomes, competencies and subcompetencies -

see later), **for each career included into the three higher education cycles: bachelor, master and doctorate**.

b) European Credit Transfer System (ECTS)

ECTS is a system intended to facilitate **student mobility and international curriculum development (Cross-border Higher Education -CBHE-)** . It is a generalized basis for all the national credit systems and **is regarded not only as a transfer but also as an accumulation system**. ECTS promotes a systematic approach to describing educational programmes by attaching credits to its components. The definition of credits in national higher education systems may however be based on **different parameters, such as student workload, learning outcomes and student teacher contact hours**. ECTS makes it easy to read and compare programmes across Europe. It facilitates mobility and academic recognition and helps universities to organize and design their programmes.

c) Quality assurance (QA)

Quality assurance mechanisms emphasize the importance of **interaction between teacher and student**. QA recognize students as co-producers of knowledge and members of the academic community curricula design with respect to learning outcomes.

However current quality assurance procedures have important limitations. In fact, **institutional reviews performed by quality assurance agencies rarely treat teaching and learning as a core aspect**, which gives a false signal to the institutional leadership about management priorities.

There are fewer incentives for academic staff to invest in development of their teaching skills and to employ new methods for teaching and assessment, such as **problems-based and/or challenges-based learning and activities**.

At the same time, there are only a few good practices which put emphasis on students and encourage them to take a more active role in designing their learning path, take advantage of collaborative learning methods and develop critical thinking through challenging established knowledge.

d) Diploma Supplement (DS)

All students in Europe receive the Diploma Supplement. This is a document attached to a higher education diploma. It provides a standardized description of the nature, level, context, content and status of the studies that were successfully completed by the graduate. The Diploma Supplement is intended to provide transparency and facilitate academic and professional recognition of qualifications (diplomas, degrees, certificates) awarded in Europe.

The Diploma Supplement is produced by the HEIs themselves. They do this according to a template that has been developed by jointly by the European Union Commission, the Council of Europe and UNESCO.

It is composed of the following eight sections:
1) Information identifying the holder of the qualification,
2) Information identifying the qualification,
3) Information on the level of the qualification,
4) Information on the contents and results gained,
5) Information on the function of the qualification,
6) Additional information,
7) Certification of the Supplement,
8) Information on the national higher education system.

Co-funded by the
Erasmus+ Programme
of the European Union

2.2 Contribution of the constructivist theory of learning to SCL

The theory of constructivist knowledge proposes a dynamic, participatory and interactive teaching process of the subject, so that knowledge is a true construction operated by the learner. The constructivist theory of learning contributes to the student-centered learning strategy, essentially through the enhancement of:
a) **The learning objectives;**
b) **Transversal competencies.**

a) SCL and learning outcomes
The concept of **learning outcomes (LO) forms the core conceptual basis for a student-centered higher education system**. A description in terms of expected or desired learning outcomes should be a statement of **what a learner is expected to know, understand, and be able to do at the end of a learning process**.
Learning outcomes should accommodate the multiple purposes of higher education; **including preparing students for active citizenship, creating a broad, advanced knowledge base, and stimulating research and innovation**.

Expected learning outcomes should be "custom written" for every programme before teaching and learning activities begin and evolve through dialogue between teacher and student throughout the development of said activities.
Learning outcomes are a shifting category, depending on the expectations and satisfaction of both students and teachers involved in teaching and learning activities.

Describing **minimum learning objectives** ensures a common experience for all students and focuses on the concrete goals of the learning activity. At the same time, **there is room for additional knowledge, skills, and attitudes to be acquired during the learning activity**, dependent upon the individual students' experiences. Since these LO are individual and not mandatory for passing, such learning outcomes should be listed in the Diploma Supplement to be given to the student upon completion of the programme.

At the beginning of the learning activity, LO are formulated as **what a learner knows, understands and is able to do on completion of a learning process**. During the learning activity, the student acquires those learning outcomes with

the teacher acting **as a facilitator of the learning process, "enabling" and not "telling"**. Assessment at the end of the learning activity should be bidirectional. Through transparent feedback, students assess whether intended learning outcomes were achieved and actively participate in defining and re-defining them for the same learning activity in the future. Teachers assess if the student has acquired those minimum requirements, but also any additional learning outcomes to be presented in the Diploma Supplement. The learning outcomes should be formulated in **clear and understandable way, transparent and accessible for students and other interested parties**.

b) SCL and transversal competencies driven by the constructivist theory of learning

Transversal or generic competencies are competencies that can be applied in different academic and work contexts. Among the various transversal competencies, the following four are the most relevant:
1) **Problem solving;**
2) **Critical thinking;**
3) **Reflective thinking;**
4) **Emotions management.**

Problem solving is the ability to carry out the following sequence of actions:
• Analysis of unsatisfactory situations;
• Concrete definition of the problem;
• Identification of the causes of the problem;
• Definition of the general objective (in relation to the problem) and the specific objectives (in relation to the causes);
• Detailed description of the activity plan to achieve the objectives;
• Definition of evaluation mechanisms

Critical thinking is the ability to perform critical analysis and achieve synthesis. Is the systematic way of thinking, structured, logical and coherent with the goal sought, through which the arguments are identified, categorized, analyzed and evaluated. Considering in a special way the reliability of the sources of data and information which are provided in such arguments. The classic categorization of arguments is binary:
1) **Inductive argumentation** (inference, induction): construction; from particular to general. Inductivism is to formulate hypotheses for an entire universe, from what is observed in a sample,
2) **Deductive argumentation**: deconstruction; from the general to the particular.

Co-funded by the
Erasmus+ Programme
of the European Union

Reflective thinking is a concept introduced by John Dewey (1859-1952), who defined it as an orderly and chained sequence of ideas, aimed at resolving a doubt or a conflict. It is a sequence of ideas that makes possible the systematic work of enriching things with meanings. According to Dewey, **reflective thinking goes through three phases**:

1) **Doubt** or initial conflict, which provokes the activity of thought;
2) **Search process**, rational investigation in order to find some information that clarifies the starting doubt or conflict;
3) **Conclusion** that sheds light on the matter that triggered the reflexive process.

The **management of one's own and others' emotions** in the framework of Daniel Goleman's "Emotional Intelligence", published in 1995, refers to the transversal competence whereby **a person not only knows and handles one's emotions but also knows and modulates the emotions of others**.

2.3 General principles underlying SCL strategy

Examination of the theory behind SCL in intensive discussions with teachers and students on their interpretations of SCL took place at the conference launching the "Time for a New Paradigm in Education: Student Centered Learning" (T4SCL) project, held in Bucharest in May 2010. The T4SCL was organized by European Students' Union (ESU) and Education International (EI), composed of trade union organizations of teachers and employees of education and research, which adhere to the principles of independent trade unionism. As a result, a list of nine general principles underlying SCL was created, aiming to put forward a clearer understanding of the topic. These principles are as follows:

PRINCIPLE I: SCL requires an on-going reflexive process
Part of the underlying philosophy of SCL is that no context can have only one SCL style that remains applicable through time. The philosophy of SCL is such **that teachers, students and institutions need to continuously reflect on their teaching and learning processes**, and dedicated resources in such a way that would continuously improve the intended learning outcomes.

PRINCIPLE II: SCL does not have a "One-Size-Fits-All" solution
A key concept underlying SCL is the realization that **all higher education institutions are different, all teachers are different, and all students are different**. These all operate in very diverse contexts and deal with various subject disciplines. Therefore, SCL is a learning approach that requires **learning support structures**, which are appropriate to each given context, and teaching and learning styles appropriate to those undertaking them.

PRINCIPLE III: Students have different learning styles
SCL recognizes that students have different learning styles. Some learn better through trial and error; others learn through practical experience. For some learners, much is learned by reading literature, others need to debate and discuss theory in order to understand it.

PRINCIPLE IV: Students have different needs and interests
All students have **needs that extend beyond the classroom**. Some are interested in cultural activities, others in sports or to be part of representative organizations. Students can have children or can be faced with psychological conditions, illness or disability.

Co-funded by the
Erasmus+ Programme
of the European Union

PRINCIPLE V: Choice is central to effective learning in SCL: flexible curricula and individual learning paths

Students like to learn different things and hence any offer should involve a reasonable amount of choice. **Flexible curricula and individual learning paths are some of the main components of SCL implementation**. This differs from one field of study to another; most students in humanities, arts and social sciences can combine and choose subjects, while students from medical studies and science have usually rather rigid curricula.

PRINCIPLE VI: Students have different experiences and background knowledge

Learning needs to be **adapted to the professional experience of the individual concerned**. For instance, if students already have considerable experience in using information and communications technology, there is no point in trying to teach them the same thing again. Personal experience can also be used to motivate students, for instance, by allowing students to share a personal story to illustrate a point.

PRINCIPLE VII: Students should have control over their learning process

Students should be given the opportunity **to be involved in the design of courses, curricula and their evaluation**. Students should be seen as active partners who have a stake in the way that higher education functions. The best way to ensure that learning focuses more on students is by engaging students themselves in how their learning should be shaped. The learning process should be described in terms of learning outcomes, which should be developed and monitored with constant evaluation and consultancy of students.

PRINCIPLE VIII: SCL is about enabling not telling

In simply imparting facts and knowledge to students (telling) the initiative, preparation and content comes mainly from the teacher. The SCL approach aims to give the student greater responsibility enabling the student to think, process, analyze, synthesize, criticize, apply, solve problems, etc.

PRINCIPLE IX: Learning needs cooperation between students and staff

It is important that students and staff co-operate to develop a shared understanding of the problems and jointly proposing solutions that might work for both groups. In the classroom, such cooperation will have a positive effect as the **two groups increasingly come to consider each other as partners**. Such a partnership is central to **the philosophy of SCL, which sees learning as taking place in a constructive interaction between the two groups**.

3. Competencies: the way to achieve learning outcomes

3.1 Learning outcomes and competencies key elements in the frame of European Higher Education Area EHEA)

Moving from a contents-based model to a competencies-based model

The European Higher Education Area (EHEA) is an area of educational organization initiated in 1999 with the Bologna Process that seeks to **harmonize the different educational systems of the European Union** and provide an effective way of exchange among all students, providing agility to the process of change undertaken by European universities currently integrated into this EHEA. Within the 49 participating countries that are taking part in the EHEA, apart from the 27emmbers of the European Union, there are other nations such as Russia and Turkey.

Competencies and learning outcomes are key elements for planning active pedagogies adapted to the EHEA and focused on the active learning of students. **The competencies materialize the learning objectives (results). They are the path that leads to the objectives. In other words: learning objectives are materialized and can therefore be evaluated through competencies**.

Until a few years ago, the planning of the educational units of each subject of the careers normally followed a model based on the contents that the teacher had to "teach", and the student "learn", with very well systematized steps:
1st. Selection of contents;
2nd. Definition of main ideas;
3rd. Selection of the reference bibliography;
4th. Preparation of the guide questions;
5th. Preparation of learning activities.

One of the changes that has led to the introduction of the European Higher Education Area has been at a methodological level, **moving from an educational contents-based model, to a competencies-based model**. In other words, moving from a model that is more focused on what teachers should teach, to another based on what students should be able to do at the end of the successful learning process. This has resulted in the resignification of the concepts "**learning outcomes" and "competencies",** visualizing them as **descriptors of what is intended to be carried out in a specific training**.

This is not only of great help for teacher planning, but also an effective means of communication with the students so that they know in advance what knowledge they are expected to put into action at the end of their studies.

Clearly, in each country of the EHEA, **the descriptors of a given career must be consistent with the "Dublin Descriptors",** which generically state the typical expectations regarding the achievements and skills related to the three cycles (undergraduate, master and doctoral) established by the Bologna Process.

Also, in the frame of EHEA competencies and learning outcomes play a fundamental role acting as facilitators in the elaboration of other elements of the curricular design, such as training and evaluation activities and the **ECTS system**. In fact, an **adequate formulation of learning outcomes and their associated competencies is crucial in the development of the ECTS system**, core of the European Higher Education Mobility and Cooperation System, since it allows **to quantify the students' work time in the learning process**.

The competencies-based higher education model that drives the EHEA **considers the learning and teaching processes**, including several elements (curriculum, credits, teaching methods and assessment methods, learning strategies, and context factors), as well as results, in terms of **competencies that the students achieve and put into action at the end of the career**.

In this new competencies-based educational model, the sequence is:
1st. Identification and definition of learning outcomes;
2nd. Identification, definition and characterization of the competencies;
3rd. Selection of contents and bibliographic material;
4th. Development of learning activities;
5th. Assessment of learning activities: rubrics;
6th. Comparison (evaluation) of the acquired skills with the expected skills.

3.2 Learning outcomes, competencies and subcompetencies as career descriptors

In the European Higher Education Area, the descriptors of a given career constitute the integrated set of:
• **Learning outcomes;**
• **Competencies;**
• **Subcompetencies**.
These **descriptors characterize the career** in a concrete way, allowing transparent communication between all the actors based on a clear definition / description of what the expected learning (knowledge, skills) is and how it will be evaluated.

For a given career, moving from a content-based model to a competency-based model, which is a central objective in the EHEA, is, in practice, **the agreement of all the actors upon the descriptors of that career**. In this process of agreement, it is necessary to distinguish two situations:
1) A **new career**;
2) A **preexisting career**.

A new career allows greater flexibility to convene the various actors and better predisposition for innovation in curriculum design. However, in all cases it is necessary to overcome the unavoidable resistance to change. Particularly from those who have been working very comfortable with content-based curricular designs and feel as if they were "owners" of the subjects and their contents.

It is a critical moment in the paradigm shift, in which those who lead the process of change should be able to develop smart strategies of "alliances" and recruitment of "crusaders" to overcome such resistance to change and ensure that **the curriculum design of the career will be channeled on the path of student-centered education and the competency-based educational model**.

The consensual definition of career descriptors always follows the same order: **First the learning outcomes, then the competencies and finally the subcompetencies**.

Learning outcomes
Learning outcomes are the **first of the consensus that must be reached in the process of defining career descriptors**.

The formulation and publication of learning outcomes is not only a key element of the student-centered education strategy, but also a pillar of the **quality assurance system**.

The European Association for Quality Assurance in Higher Education (ENQA) thus establishes it, considering that having a bachelor's degree, master's or doctorate, implies **the recognition that the student has achieved specific pre-established learning outcomes**.

Learning outcomes are **objectives**. A written statement of **what a student who has obtained an academic degree is expected to be able to do at the end of the career**. The intended learning results are the reference point to assess the coherence and quality of the planning of the degree as a whole, as well as the quality of the educational activities offered to the student in each subject.

Until a few years ago, it was requested that learning outcomes be expressed precisely so that they were observable, evaluable and attainable, **but linked to the subjects**. *A model of a teaching guide from the learning results and its evaluation University of Zaragoza; Collection "Reference documents for teaching quality", Institute of Education Sciences. Javier Paricio. 2010.*

Therefore, it was common to observe that in the careers several learning objectives were established per subject, which meant that a degree could present **such a large number of learning objectives that was impossible to evaluate them in practice**. Today, the recommendation and the trend are **to define few learning objectives**. Those which are essential for the degree.

To assume that a whole career can be defined through a few learning outcomes, it is logical to suppose that it will be necessary to incorporate an important amount of **knowledge of different types (competencies) in order to achieve those results**. That is, **competencies are the way to achieve learning outcomes.**

Suggestions for the formulation of few, but essential, learning outcomes
• The curricular designs present the contents and academic activities within the subjects, and these are usually included in larger spaces with different denominations, blocks, axes, modules, which, in general, follow a triune logic:
  - **Fundamental component**, mostly theoretical;
  - **Applied component**, mostly practical;
  - **Integrative final work**.
  Learning outcomes should not be formulated for each subject, but for the degree. For this, it is practical (as a suggestion, not as a prescription) that the

learning results should be formulated in relation to the blocks in which the subjects are included. That is, a learning result for the **fundamental block**, another one for the **applied one** and a third one for the **final integrative work**. However, it is totally coherent that within the definition of each of these three learning outcomes, key elements of the subjects areas contained in the blocks be mentioned too;

- The learning objectives should reflect what the student should be able to do at the end of the career, **not the activities he carries out throughout the subjects, or what the professor teaches**;

- **Avoid vague or general expressions such as "understand" or "know"**. Use verbs that express concrete and evaluable actions, which establish clear expectations about what is going to be learned and what is going to be required to be done.

  For example:

  At the end of the career the student will be able to:

  - Identify and apply, for the professional practices which are developed in the institutions that provide healthcare services, indicators of results in quantitative terms -output-, qualitative -outcome- and impact, link them to the effective exercise of the right to health and establish causal relationships either with the underlying processes or with the resources put into play;

  - Apply the following management tools, in a contextualized manner, according to the level of management (maximum level of management, intermediate, or at the level of work teams): direction of the human resource towards the fulfillment of the mission of the organization, strategic and operational planning, documentation and process optimization; development of control panels, preparation of costs and budgets;

  - Prepare projects to improve the quality of a health institution, defining and developing the following components: rationale, reference framework, problem to solve and its causes or development opportunity, objectives (general and specific), plan and schedule of activities, evaluation.

The underlying assumption in the learning outcomes definitions process is that all the involved actors participated. At least all teachers of the specialization in hospital administration should have participated, together with the directors of the career and experts from the academic department. Ideally, also alumni, former students, patients and managers of different hospitals.

Competencies

The competencies are the **second consensus that must be reached in the process of building the career descriptors**. The European Qualifications Framework (EQF) defines **competencies as the ability to use knowledge and skills, as well as personal, social and/or methodological abilities, both in work and study situations and in professional and personal development**.

The purpose of all educational programs is that **students achieve certain learning outcomes through the acquisition of certain competencies**. Learning outcomes and competencies **are identified, defined and presented in the curriculum, for the entire career**. Then, **in each of the programs of the curricular spaces** (subjects, modules, units), **the competencies and their respective subcompetencies are described and developed**, as well as the mechanism of their evaluation through the **learning activities**.

Today it is being promoted that few learning objectives should be established. Likewise, it is also suggested that **few, but conclusive competencies be defined**.

Visualizing this driving of competencies towards learning outcomes (objectives), allows to overcome the traditional curriculum based on compartmentalized subjects. That is to say, **the subjects and the contents do not disappear, but are resignified and thought in terms of how they should be articulated and integrated to contribute in the best possible way so that students can develop the competencies promoted by the career**.

This paradigm shift, clearly implies the need for HEIs to use an enormous amount of energy in cultural change which represents that the traditional "owners" of the subjects areas and their contents resign power and contribute so that the university, the faculty and / or the department can fit decisively, in the facts and not only in the rhetoric, **within the two new brother paradigms illuminated in the Bologna process and the European Higher Education Area: student-centered education and the competency-based educational model**.

Broadly, the characteristics of the competencies-based training model are:
a) It constitutes a proposal that starts from meaningful learning and is oriented towards integral human formation as an essential condition of every pedagogical project;
b) It integrates theory and practice in the various activities;

c) It promotes continuity between all educational levels and between them and the work and living processes, seeking mobility and flexibility;
d) It fosters the construction of autonomous learning;
e) It guides the formation and consolidation of the ethical life project;
f) It seeks the development of the entrepreneurial spirit as the basis for personal growth and sustainable socio-economic development;
g) It b**ases the curricular organization on projects and problems, thus transcending the curriculum based on compartmentalized subjects**.

In 2017, the United Nations Educational, Scientific, and Cultural Organization -UNESCO- defined the core of competencies-based training as **"the acquisition of knowledge through action"**. Then, the competencies are **knowledge put into action**. In all cases, the concept of competition integrates different knowledges:
• **Know how to learn and to think** (observe, analyze, understand, interpret and explain); **cognitive component** of competencies.
• **Know how to do and act** in different scenarios (performance based on procedures and strategies); **procedural component** of competencies.
• **Know how to stay** (participation and collaborative work) **and know how to be** (autonomy, responsibility, self-motivation, initiative, leadership and creativity); **attitudinal component** of competencies.

A very clear definition of competencies is provided by Carolina Fernández-Salinero, from the Department of Theory and History of Education of the Complutense University of Madrid (2006): **Competency is a cluster (set) of integrated knowledge, skills (abilities) and commitments -attitudes and values-, that enable a person (or an organization) to act effectively in a job, or successfully face the uncertainty associated with different situations** and **contexts**.
The terms **'competence' and 'competency' are used interchangeably**.

This approach shows that competencies always are characterized by the fact that:
• They involve together knowledge, skills and attitudes –that is, the three types of knowledge– that are pertinent **to solve a problem, <u>disregarding</u> the resources that are outside the proposed context**;
• They express a combinatorial knowledge that the student builds through the different **learning activities that mobilize multiple knowledge**;
• They require **ongoing training as the context changes**;
• They are manifested in action and **are inseparable from practice**;

- They **involve reflection**. They do not contemplate the mechanical repetition of actions without analyzing the purpose and consequences of said actions.

It is important to differentiate this described conception of competencies from other merely technical approaches where competencies are thought of as the execution of tasks according to prescribed standards linked to professional qualification for the performance of tasks in specific job positions. That is, as a fragmented set of knowledge and skills to participate in a certain productive function.

Categorization of competencies

Some competencies are **specific to a field of study**, while others are **generic, therefore, common to all fields of study**. The development (acquisition) of competencies should be carried out in an integrated and cyclical way, throughout the entire educational program. Within the competence-based higher education model, competencies can be categorized either **by the moment in which they are developed, or by their characteristics**.

A) Different competencies, according the **moment in which they are developed**:
1) **Intended (expected) competencies** at the beginning of the development of the educational program: competencies that students are expected to acquire throughout a study program.
2) **Student's real competencies or assessed (perceived) competencies** from two perspectives:
a) **Teachers' evaluation** of the competencies achieved by the students;
b) **Students' self-assessment** of the achieved competencies.

A study program fully reaches its objective when the <u>three types of competencies</u> are at the same level: those perceived by the student, those evaluated by teachers and the competencies expected in the curriculum. In this sense, the detailed prior definition of the mechanisms for the evaluation of competencies as well as their comprehensive and transparent communication are of crucial importance.

B) **Competencies according to their characteristics: basic or key competencies, generic or transversal competencies, and specific competencies**.
1) Basic (key) competencies: essential knowledge and skills which people need in order to be active members of a modern society and a flexible

(adaptable) and competitive workforce: Students with a bachelor's degree are expected to have **general levels** of:

- Literacy;
- Arithmetic or numeracy;
- Communication;
- Collaboration and group working;
- Computing and information technology;
- Knowing how to learn.

2) **Generic (transversal; transferable) competencies**: skills that can be applied in different academic and work contexts and are considered valuable in the knowledge society. For example:

- Critical thinking; critical analysis and synthesis;
- Reflective thinking;
- Managing emotions;
- Basic general knowledge in the field of study;
- Application of knowledge in practice;
- Information management skills;
- Interpersonal skills;
- Ability to work autonomously;
- Teamwork;
- Making decisions and taking responsibility for results;
- Effective communication: both orally and in writing;
- Elementary computer skills;
- Research skills:
  - Management of literacy information;
  - Scientific writing.
- Problem solving:
  - Analysis of problems and their causes;
  - Planning, organization, monitoring and evaluation of activities.
- Designing and evaluation of projects;
- Dealing with non-routine processes;
- Working on quality assurance.

It is important to note that **each of the basic and generic competencies listed above can be considered as a sub-competence, so that several of them should be incorporated into a single competency that contains them**. In fact, this is usually the case.

3) **Specific competencies (Subject-specific competencies / Subject-related competencies)**: they are expressed through the knowledge related to the disciplinary contents and specific skills of the professional practices included in the training.

3.3 Implications of the application of the competence-based learning model

In a competence-based learning model, **learning outcomes define which competencies the students should acquire**. The process to achieve the expected student competencies **usually begins with the agreement on a curriculum**. In competence-based learning, **the curriculum should define all ideal learning outcomes which lead to a much precise definition of the expected competencies**. In fact, **competencies are derived from learning outcomes (LO), and in some cases, can be formulated in the same way**.

Once the learning objectives and competencies that the student must develop at the end of the career have been established, **the subjects that best contribute to achieving the desired competencies are established in the curriculum**. From this initial moment, each and every one of the programs of the subjects that compose it must be articulated and integrated around the expected competencies. **The expected competencies define what the subjects of the curriculum will be**.

Then, the design of each study program, contents, teaching methods, activities and evaluation should be adequate to promote a learning process based on competencies. For example, for a possible learning result defined as "... research skills", the subject program can define a scientific writing competence and establish not only a content of scientific writing but also a seminar with practical and sufficient exercises Time for teacher feedback.

An important issue for the development of a course (career) in the frame of the competence-based model **is the decision-makers' knowing and advocating of the procedure**. This objective includes that the decision-makers, such as the rectors' office, the members of the academic council and the commission of new curricular developments, know the reasons that motivate the application of the competence-based model to a specific study program of the higher education institution.

Another important issue for the development of a course in the framework of a competency-based higher education model is the **nomination of a project team**, as well as its training in the substantive aspects of the new process. This implies the selection of people and the **development of specific workshops in the competency model**. Finally, the HEIs' proper **allocation of resources for the whole process becomes very important**.

Co-funded by the
Erasmus+ Programme
of the European Union

Finally, the concrete development of the learning process results in the **real student competencies**. Real competencies are those **that students actually did acquire**. Certainly, there are also interrelations between the specific elements of the particular reality in which the competence-based learning model is developed. Lack of teaching personnel, for example, can lead to the interaction with larger student groups. This, in turn, influences the development of the practices. This chain of negative circumstances for the development of good teaching and learning processes **leads, at the end, to deficiencies in the student's real competencies**.

3.4 Quality aspects in the definition of competencies

In a very broad sense, competencies can be defined as "qualities acquired by a person, which are necessary for him to deal, successfully, with specific situations and tasks, in a determined context". In a very specific sense, competencies can be formulated as concrete definition of a determined learning outcome. Therefore, in the definition of competencies, **the degrees of abstraction vary from the very broad to the very specific**.

There is no consensus as to what the appropriate level of abstraction is. However, considering that the definition of a competency immediately requires its explicitness through the identification of some sub-competencies with their respective standards (see below), in practice, **quality educational programs have fewer learning objectives, but more specific, as well as their corresponding competencies**.

Unquestionably, competencies should not be formulated with a very high degree of abstraction because it would be very difficult to agree on a certain evaluation mechanism. However, competencies should not either be formulated with a very low degree of abstraction, as this could lead to a large number of results to evaluate, which can overwhelm teachers and students, and, finally, render evaluation impossible.

Hence, **the first quality criterion** in defining competencies is that **competencies should be formulated on a medium degree of abstraction**. As **few competencies as possible, with the highest possible degree of specificity**.

A further quality criterion in the definition of a competence is the specification of the components (sub-competencies or criteria) that constitute said competence. It is in these **sub-competencies where the three components of competencies play a role: knowledge, skills and attitudes**. Sub-competencies and competencies components may vary from one competence to another. However, almost all definitions of competencies imply the three components: knowledge, skill and attitude. Hence, a competence model for higher education that is as simple as possible should at least contain the distinction between knowledge, skills and attitude. This also has a practical implication for the evaluation.

Co-funded by the
Erasmus+ Programme
of the European Union

In summary, when HEIs are trying to go on in the field of competency-based learning, it is important to consider two quality criteria to define these competencies:

1) **Define as few competencies as possible, specific to the field of study on a medium abstract level;**

2) **Identify sub-competencies (criteria) and differentiate among them the components of knowledge, skill and attitude (motivation, responsibility and autonomy).**

3.5 How to identify, define, develop and evaluate competencies

The process of identifying, defining, developing and evaluating competencies should be carried out systematically in four stages:
1) **Identification, definition and characterization of the intended (expected) competencies**;
2) **Development of learning activities** to reach the expected competencies;
3) **Evaluation of learning activities: rubrics**;
4) **Evaluation comparing** acquired competencies against the intended competencies.

For each of these four stages, there are one or two tools that facilitate and synthesize the development of each of these stages:
1) **Table of competencies and subjects**;
2) **Table of sub-competencies or criteria**;
3) **Table of activities**;
4) **Table to evaluate each competence: "rubric"**;
5) **Questionnaire and table to compare the actual skills acquired with the expected skills**.

Stage 1: Identification, definition and characterization of expected competencies

This first stage is the **key to the development of a quality curriculum based on competencies**. This stage has **two critical moments** and a common assumption to both moments: the wide **participation of involved actors**. All teachers in each of the subjects of the career must participate in the definition of "learning outcomes" and "Competencies". It is the only way that both learning outcomes and competencies will be visualized by all actors as an **integrated set of descriptors -learning results, competencies and subcompetencies- of what is intended to be carried out in the training in question**.

Beyond that, this joint work instance among teachers is of huge help for the articulated planning of the academic activities of the career, as well as an **effective means of communication with the students**. Both planning and communication are educational quality tools, because they allow all actors to know, in advance, what knowledge students should put into action at the end of their studies. It is also desirable that former students participate in the definition of competencies, and alumni, in cases of institutional maturity.

The **two moments of this first stage are**:

Co-funded by the
Erasmus+ Programme
of the European Union

a) **Definition of the competencies and identification of which subjects should be involved in their acquisition and evaluation**;
b) **Identification of subcompetencies or criteria, for each competency**.

a) Definition of competencies and identification of which subjects should be involved in their acquisition and evaluation
- Definition of competencies
Competencies are defined by grouping them into three categories:
a) **Basic**;
b) **Generic or transversal**;
c) **Specific**.
The **general competencies of a degree can be included**. Do not confuse with the generic (transversal).

Example: Master's Degree in Psychopedagogy
Definition of competencies
The Master's Degree in Psychopedagogy has the following competencies profile:
1) Basic competencies: the students should be able to:
- *BC1. Have sufficient knowledge that may allow them to be original in the development and/or application of ideas, often within research contexts;*
- *BC2. Apply the acquired knowledge, being able to resolve problems in environments that are new or little-known to them, in wider (or multidisciplinary) contexts, related to their field of study.*
- *BC3. Integrate knowledge and face the challenge of forming a judgement, upon incomplete or limited information, that may include reflections on social and ethical responsibilities related to the application of their knowledge and judgement;*
- *BC4. Communicate their conclusions, knowledge and ultimate reasons that support the former to specialized and non-specialized audiences, unambiguously and in a clear manner;*
- *BC5. Have the required learning skills that may allow them to continue studying in a way that will be, to a large extent, self-directed and autonomous.*

2) Transversal Competencies: the students should be able to:
- *TC1. Produce, write and defend scientific or technical reports;*
- *TC2. Work in teams in class, preparing papers or participating in research groups at the University;*
- *TC3. Show they have self-learning skills;*

Co-funded by the
Erasmus+ Programme
of the European Union

- *TC4. Gain ethical commitment;*
- *TC5. Communicate results, both orally and in a written manner (in presentations and papers submitted in class, seminars or conferences);*
- *CT6. Prove to feel motivated by scientific research (participating in scientific organizations, attending conferences and seminars and actively participating in them, frequently consulting scientific magazines, etc.).*

It is important to remember that **the basic and generic competencies expected in a given postgraduate degree are not evaluated in isolation. They are evaluated together with the specific competencies**.

3) General Competencies (of the degree): the students should be able to:
- *GC1. Know the psycho-pedagogical orientation and intervention models and their different application in diverse political or social contexts and in the different stages of the educational system;*
- *GC2. Diagnose and care for people´s different educational needs (within their school, personal, family or professional settings) as well as those of the organizations, upon the bases of methodologies, techniques and instruments that may be appropriate in each case;*
- *GC3. Advise and orient both students and families on educational matters, as well as educational professionals on the design, implementation and evaluation of innovation and improvement programs and experiences;*
- *GC4. Plan, manage, organize and coordinate psycho-pedagogical services, fostering the integrated work of the different socio educational agents and institutions, upon the bases of functionality, efficacy and efficiency criteria;*
- *GC5. Understand and identify theoretical and methodological problems faced by psycho-pedagogical research and propose new psycho-pedagogical practices based on evidence;*

4) Specific Competencies: the students should be able to:
- *SC1. Diagnose and assess the socio educational needs of people, groups and organizations, by means of different methodologies, instruments and techniques, considering the unique characteristics of inclusive specialized contexts;*
- *SC2. Propose innovative coordination guidelines among professionals, both in their own center and in other centers that have a bearing on the alumni;*
- *SC3. Comply with the regulations in force in the different scopes of action, creatively managing the psycho-pedagogical services;*

- *SC4. Design, implement and evaluate educational practices, programs and services that may satisfy the needs of people, organizations and specific groups within the psycho-pedagogical area (school, social sphere, workplace);*
- *SC5. Adopt state-of-the-art techniques for the design and validation of data collection and psycho-pedagogical assessment tools;*
- *SC6. Apply and interpret diagnosis and psycho-pedagogical assessment tools in complex situations that may require a differential diagnosis or the participation of different experts or professionals;*
- *SC7. Analyze and use different technological resources available for the psycho-pedagogical field;*
- *SC8. Have the ability to make decisions to establish the most appropriate measures to be taken in the psycho-pedagogical scope of work;*
- *SC9. Understand and use the language used by the sciences over which psychopedagogy supports itself;*
- *SC10. Handle documentary sources of psycho-pedagogical research to gather evidence for their professional practice.*
- *SC11. Design plans of research, either basic or applied to different scopes, analysing the results for the improvement of the psycho-pedagogical practice.*

To define the competencies and in which subjects areas they will be deal with, the underlying assumption is that all the involved actors participate in the process. At least all teachers of the Master in Psychopedagogy must participate, together with the directors of the career and experts from the academic department. Ideally, also alumni, former students, and different school managers.

- Identification of the subjects in which the competencies must be evaluated

First of all, the subjects must be identified grouping them according to whether they are **fundamental, applied or final work**.

Example. Continuing with the example of the **Master in Psychopedagogy**, the subject areas are:

A) Fundamental subjects:
1) Psycho-pedagogical diagnosis in formal and non-formal contexts.
2) Current models in educational orientation.
3) Learning innovations to attend to diversity.

B) Applied subjects:

4) Psychopathology along the life cycle.
5) Psycho-pedagogical care for specific needs of educational support.
6) Neuroeducation and learning.
7) Coexistence and prevention of conflicts in inclusive educational contexts.
8) Psycho-pedagogical programs in non-formal contexts.
9) Lifelong learning and professional development.
10) Data design and analysis in psycho-pedagogical research.
11) Supporting technologies for psycho-pedagogical research and innovation.
12) Practicum

C) Final work:
13) Master's Final Paper.

To identify which competencies each subject of the degree should evaluate, the tool called **"Table of competencies and subjects"** is used.

In this table it is very clear **which subjects, and, therefore, which teachers, should be involved with each competency**. This means that the teachers who teach the subjects in question must carry out not only the activities of this first stage of identification definition and characterization of the expected competencies, but also the **following three stages**.

Following the example of the **Master in Psychopedagogy**, the corresponding **"Table of competencies and subjects"** is presented below.

Career: Master in Psychopedagogy. Table of competencies and subjects

| ASIGNATURAS | COMPETENCIAS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Básicas | | | | | Generales | | | | | Transversales | | | | | | Específicas | | | | | | | | | | |
	CB1	CB2	CB3	CB4	CB5	CG1	CG2	CG3	CG4	CG5	CT1	CT2	CT3	CT4	CT5	CT6	CE1	CE2	CE3	CE4	CE5	CE6	CE7	CE8	CE9	CE10	CE11
Psycho-pedagogical diagnosis in formal and non-formal contexts.	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Current models in educational orientation.	X	X	X	X	X	X	X		X		X	X	X	X	X	X		X	X	X		X	X	X	X	X	
Learning innovations to attend to diversity.	X	X	X	X	X	X	X				X	X	X	X	X	X		X	X	X		X	X	X	X	X	X
Psychopathology along the life cycle.	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Psycho-pedagogical care for specific needs of educational support.	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Neuroeducation and learning.	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Coexistence and prevention of conflicts in inclusive educational contexts.	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X		X			X	X	
Psycho-pedagogical programs in non-formal contexts.	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X		X			X	X	

Career: Master in Psychopedagogy. Table of competencies and subjects

ASIGNATURAS	COMPETENCIAS																											
	Básicas					Generales					Transversales						Específicas											
	CB1	CB2	CB3	CB4	CB5	CG1	CG2	CG3	CG4	CG5	CT1	CT2	CT3	CT4	CT5	CT6	CE1	CE2	CE3	CE4	CE5	CE6	CE7	CE8	CE9	CE10	CE11
Lifelong learning and professional development.	X	X	X	X	X			X			X	X	X	X	X	X	X	X	X	X		X		X	X	X	
Data design and analysis in psycho-pedagogical research.	X	X	X	X	X			X			X	X	X	X	X	X					X	X	X	X	X	X	X
Supporting technologies for psycho-pedagogical research and innovation.	X	X	X	X	X			X			X	X	X	X	X	X		X	X	X		X	X	X	X	X	X
Practicum.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	
Master's Final Paper.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Contents block (module, axis, etc.) Fundamental
Contents block (module, axis, etc.) Applied
Contents block (module, axis, etc.) Final Integration Paper

Co-funded by the
Erasmus+ Programme
of the European Union

b) Identification of subcompetencies or criteria, for each competence

In each competence, both components, knowledge and ability, are represented in the various **subcompetencies or criteria**.

e.g.:

Competence: capacity to manage information literacy

Sub-competencies or criteria:

The graduate should be able to:

– *Access archives, libraries, the web and other written, oral and electronic sources of data and information;*
– *Effectively employ appropriate technologies in searching such information;*
– *Apply research principles and methods to gather and scrutinize information;*
– *Manage, analyze, evaluate and use information efficiently and effectively in a range of contexts;*
– *Respect economic, legal, social, ethical and cultural norms and protocols in gathering and using information.*

Another e.g.:

Competence: capacity to perform critical analysis and synthesis.

Sub-competencies or criteria:

– *Formulating ideas of a concept as a result of the reading, researching, discussing and brainstorming in highly specific, subject-focused work, either academically and professionally oriented;*
– *To describe objectively, categorize and relate categories;*
– *Making independent autonomous interpretations, evaluations, distinctions and differentiation, and sharing insights from learning through debates, theses;*
– *Becoming aware of their own, and challenging others' taken-for-granted assumptions;*
– *Revealing links between contemporary concepts;*
– *Quantifying information;*
– *Applying relevant theory to source material;*
– *Incorporating new conclusions into existing knowledge;*
– *Placing specific events and/or problems into wider contexts;*
– *Giving examples and / or counterexamples.*

To present in a clear and synthetic way the subcompetencies or criteria of each competence, the tool "**Table of subcompetencies or criteria" is used**. It is the same table that will be after used in stage 3, to evaluate the real competencies acquired during the learning process.

In the table of subcompetencies or criteria, **the qualitative (rows) and quantitative (columns) levels of the competence under analysis, are defined**. That is, in the table, **each subcompetence or defined criterion is placed in the rows, while in the columns the level (value) of evaluation that can be achieved** in each subcompetence is indicated. In the meeting cells between criteria (rows) and values (columns) the definition of the **necessary standard is shown so that the criteria defined in the row can reach the preset value in the column**.

For the definition **of subcompetencies or criteria of a certain competency, the underlying assumption is also that all the involved actors**. At least all teachers of the Master in Psychopedagogy should have participated, together with the directors of the career and experts from the academic department. Ideally, also alumni, former students, psycho-pedagogues and different managers of companies that employ graduates of the involved career.

Below there is an example of "Table of sub-competencies or criteria"

Table of subcompetencies or criteria
Competence: capacity to perform critical analysis and synthesis

Subcompetencies or criteria	Very good	Good	Sufficient	Insufficient
Formulating ideas of a concept as a result of the reading, researching, discussing and brainstorming in highly specific, subject-focused work, either academically or professionally oriented.	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*
To describe objectively, categorize and relate categories	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*
Making independent autonomous interpretations, evaluations, distinctions and differentiation and sharing insights from learning through debates, theses.	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*
Becoming aware of their own, and challenging others', taken-for-granted assumptions.	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*
Revealing links between contemporary concepts.	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*
Quantifying information.	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*
Applying relevant theory to source material.	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*
Incorporating new conclusions into existing knowledge.	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*
Placing specific events and/or problems into wider contexts.	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*
Giving examples and / or counterexamples.	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*	*Pre-defined Standard*

Co-funded by the
Erasmus+ Programme
of the European Union

Stage 2. Development of learning activities to reach the expected competencies
Designing the learning activities oriented towards the acquisition of the expected competencies is a very creative stage under the responsibility of the holders of each subject. The key is to always ask ourselves if the learning activities that we are proposing are appropriate **to "align" and articulate the contents of the subject, the expected competencies and the interest of the students**.

A critical element in the design of learning activities, which should never be neglected, is the most accurate calculation of the **time that the student should dedicate to develop each of these activities**.

The following is a non-exhaustive list of activities that can be carried out in each subject of the career:
- Analyses of texts and / or data;
- Analyses of cases;
- Challenges -Challenge Based Learning-;
- Critical observation of movies, videos, etc.
- Demonstration of a practical skill/ set of skills.
- Essays;
- Literature reviews. Critique of contrasting (differ strikingly) research papers;
- Oral presentations;
- Participation in discussion forums;
- Practice with simulator;
- Problems to solve;
- Project development and evaluation;
- Professional portfolios;
- Reading of bibliographic material, newspaper articles, investigations, etc.
- Reports; Fieldwork reports; Work placement reports or diaries;
- Roll playing;
- Tests of knowledge or skills;

The **"learning activities table"** by subject is a very useful tool to make it clear and synthesize how the contents of a specific subject and the expected competencies are aligned with the **activities and the real time that the students can dedicate to each of them**.

Below there is an example of a table of learning activities.

Tabla de actividades de aprendizaje. Unidad 2. Salud y servicios de salud

Weeks	Competencies / Subcomp.	Educational materials	Contents	Activities	Time
Third week	**Ability to recognize the exercise of the right to health**. To identify barriers of accessing to services that benefit people's health status. To identify the determining factors of the disease-health process.	Unit 2. **Class 1: Health as a tutelary good, human right, historical-cultural construction, a social project and State policy** Video N ° 1, 16:05 minutes PPT Health: Slides 1 to 37 Mandatory Bibliography: Health and Health Services: Pages 1 to 14	• Health as a meritorious good, human right, historical cultural construction, a social project and a State policy. Health and sickness. • Field of health and social determinants of health. • Public health. • The current eleven essential functions of public health. Health as an indicator of the well-being of individuals and a population.	Core Knowledge Reading (PPT) and mandatory theory Participation in virtual forum **Answer the questions of the case Maternal Mortality**	6 hs.
Third week	**Ability to recognize the exercise of the right to health**. To apply methods to know the health needs of each person. To know the different types of demand for health services. To relate the need for health with the different types of demand and the supply of health services.	Unit 2. **Class 2: Health need; Demand and supply of health services** Video N ° 2: 16:02 minutes PPT Health: Slides 25 to 42 Mandatory Bibliography Health and Health Services: Pages 41 to 50	• Health need and mission of the establishments that provide health services. • Health need: felt need and normative need. • Satisfaction of the need in health and exercise of the right to health. • Health demand: potential demand and rejected demand. • Offer of sanitary services.	Core Knowledge Reading (PPT) and mandatory theory Participation in virtual forum **Answer the questions of the case Maternal Mortality**	8 hs.

In red the activities subject to evaluation that the students must present to the tutors are highlighted.

To ensure the coherence of the career' ensemble of activities, it is desirable that the learning activities of each subject be the result of **the cooperative work of the entire teaching team of the career**.

Stage 3. Evaluation of learning process activities: rubrics.

It is not well known why the term "rubric" is used for the evaluation of competencies since, in general, the term is associated with the action of signing or subscribing. Etymologically, it comes from the Latin "ruber", red, because in the old books it was of common practice to sign with red ink. In the Collins Dictionary, beyond the known meanings, there is an additional definition of the term: "instructions to a candidate at the head of the examination paper".

A rubric is an evaluation instrument, a register that has certain criteria or dimensions to evaluate (in the rows), with levels or gradations of performance (in the columns) typified by explicit standards in the same instrument (text present in the cells).

The rubric is an assessment instrument perfectly applicable to a competency-based approach. In the broad sense, the rubric is identified with any closed evaluation guideline (checklist or scale type). **The enormous advantage of the rubric as an evaluation tool is that it is the same double entry table used during planning as an instrument for defining and assessing each of the sub-competencies or criteria that make up each of the competencies that materialize the learning outcomes**.

This allows the rubric to be the **central element of transparent communication between teachers and students**. Such rubric is a substantive element not only of student-centered learning, but also of the whole process of acquisition of competencies. **Particularly in relation to the workload of the student and the corresponding allocation of credits**.

The following is an example of a rubric to evaluate a competency. It is only an example that intends to expose the characteristics of the instrument, without entering into the disciplinary precision of the definitions of the sub competencies (criteria of the rows) nor of the standards (definitions present in the cells) that represent the core of the method. It is simply to show that **6 to 8 sub competencies are sufficient to describe a competence, as well as 1 to 3 precise definitions for each standard are also sufficient**.

Finally, **it is essential to stress that the rubric is an indispensable instrument for the effective development of a competency-based model of higher education**, in that it allows one to get out of the words and go to the facts, in the four phases of an educational program: planning, implementation, control and evaluation.

Also, for the definition of the components of the rubric, the underlying assumption is that all the involved actors have participated. Minimally, in the case of the example below, all the teachers of the career should have participated, together with the directors of said career and experts of the academic department. Ideally, also alumni, students and managers of companies that employ graduates of the career in question.

"Rubric": table for the evaluation of competencies
Competence: Developing laboratory practices efficiently

Criteria	Very good: 7	Good: 5 and 6	Bare pass / Sufficient: 4 and 3	Fail / Insufficient: 2
Providing laboratory materials	The student complies with all the materials requested for the practice.	The student complies with 8 out of ten of the requested materials.	The student complies with 4 out of ten of the requested materials.	The student does not bring materials for the practice.
Following security measures	He attends the practice wearing a clean buttoned-up apron. He complies with and promotes all the security measures.	He attends the practice wearing a clean buttoned-up apron. He complies with some of the security measures.	He attends the practice wearing a dirty or stained unbuttoned apron. He hardly complies with the security measures.	He does not wear an apron. He rejects and ignores the security measures.
Integrating working teams	Good integration; he respects others' ideas. He takes part in the practice actively.	He doesn't integrate much into the team, although he works regularly. He takes part in the development of the practice.	He does not integrate much into the team, although he works regularly. He does not respect others' ideas. He takes part in the development of the practice.	He does not integrate into the team. He does not respect others' ideas. He does not take part in the development of the practice.
Knowing the theoretical framework	He enumerates the main concepts of the practice in an orderly way.	He lists the first 10 main concepts of the practice, but not in an orderly way.	He lists four main concepts of the practice, but not in an orderly way.	He does not list or order the main concepts of the practice.
Conceptualizing and developing the practice	He describes and performs all the practice steps in detail, in an orderly way.	He describes and performs the practice steps in detail, but not in the pre-established order.	He describes the practice steps perfunctorily and not in the pre-established order.	He does not describe or order the steps either conceptually or during the practice.
Verifying and defending the hypothesis	Based on all the data collected, he gives three examples defending the suggested hypothesis to accept or reject it.	He produces two arguments accepting or rejecting the hypothesis.	He produces one argument to accept or reject the suggested hypothesis.	He does not put forward any argument to accept or reject the hypothesis.

Co-funded by the
Erasmus+ Programme
of the European Union

Verifying and defending the hypothesis	He makes new questions/ lays out new problems.	He doesn't make any new question/ does not lay out any new problem.	He does not make any new question/ does not lay out any new problem.	He does not make any new question/ does not lay out any new problem.
Drawing conclusions	He finishes the practice with scientific arguments of the hypothesis, grouping and explaining the experimental data.	He finishes the practice with a good conclusion, but without scientific argumentation of the hypothesis.	He finishes the practice with a poor conclusion and no argumentation.	He makes no conclusion or comment of the practice.

Stage 4. Evaluation comparing acquired competencies against the intended competencies.

The evaluation foreseen in this fourth stage of the process of identification, definition, development and evaluation of competencies **is based on the subjective inquiry (perception) of two aspects**:

a) If the teaching process **fosters the acquisition of the expected skills**;

b) If the students **really get the expected skills**.

The subjective perception evaluation is carried out through a questionnaire, either online or as done routinely (on paper), **following two premises**:

• It must be designed to be answered by at least two groups of stakeholders, **students and teachers**, in order to involve different perspectives of stakeholders.

• It must be designed in relation to the **theoretical / ideal competencies defined in the curriculum**, and which are expected to be acquired by the students.

In the theoretical model, each competence differs in at least two components, knowledge and skills. Therefore, in this comparison between the competencies acquired with the expected competencies, for each competency the following 4 variables are explored, both from the perspective of the teacher and the student:

1. If the teaching process fosters student competencies;
    1.1 Knowledge;
    1.2 Skills.
2. If students really acquire the expected skills:
    2.1 Knowledge;
    2.2 Skills.

The four items must be investigated in relation to each subject.

Co-funded by the
Erasmus+ Programme
of the European Union

The results are then presented in a double entry table for each competency. The **four variables are located in the rows**:

1. If the teaching process fosters student competencies;

    1.1 Knowledge;

    1.2 Skills.

2. If students really acquire the expected skills:

    2.1 Knowledge;

    2.2 Skills.

In the columns are located **the scale of agreed values** according to pre-established standards.

4. Educational credits

The introduction of the European Higher Education Area (EHEA) was a new measure of educational time. The so-called ECTS credit, original acronym for European Credit Transfer System. ECTS was adopted in 1989, within the framework of the Erasmus program, as a **system for <u>transferring</u> credits, that is, a mechanism that facilitated the recognition of study periods carried out in other countries**, based on the work carried out by the student at the host institution. The process of convergence towards the European Higher Education Area adopted the ECTS as a system not only for the transfer but also for the <u>accumulation</u> **of credits, which served to recognize the activity carried out at all levels: institutional, regional, national or international**.

The introduction of ECTS has had effects beyond the administrative measure of educational time to give rise to what some advocate as a new educational model based on the motto of student-centered learning. However, others affirm that the limitations of this concept of educational time make it unsuitable for this concept of education, which has caused a distortion of the original meaning of said motto, which appeals to experimentation and participation freedom, to give place to greater control.

In all cases, **credits are almost the last instance in the development of a curriculum**. First of all, the curriculum must be established in the context of the institutional and departmental mission -or faculties-, as well as the regulatory framework and the corresponding professional specifications: regulations and requirements. It is increasingly recommended that a needs analysis be carried out through the consultation with interested parties: employers, graduates and society in general, to determine the possible demand for the educational program. Then the learning objectives and the educational components consistent with those objectives must be established: subjects-courses-modules, assignments, research projects, final works, etc. **Lastly, credits are allocated for each educational component in the institutional academic framework for the allocation of educational credits**.

4.1 The European Credit Transfer System (ECTS) as a key tool of the European Higher Education Area (EHEA)

In 1999 the Bologna Declaration included ECTS among the main objectives to be achieved by countries participating in the Bologna Process. Through the reforms implemented in the course of the Process, ECTS has become a key tool of the European Higher Education Area (EHEA). ECTS is adopted as the national credit system in most countries of the EHEA. ECS is increasingly used by institutions from other regions of the world or interacts successfully with local credit systems based on comparable criteria. Thus, ECTS is playing an important role in the growing global dimension of education.

Within the EHEA, ECTS increases the transparency and readability of the educational process and thus plays an effective role in stimulating change and modernization, because **its implementation encourages the paradigm shift from a teacher-centered to a learner-centered approach**. Which is, under the term of Student-Centered Learning (SCL), recognized as an underlying principle of the EHEA. By using learning outcomes and workload in curriculum design and delivery, ECTS places the student at the center of the educational process. Moreover, using credits makes it easier to create and document **flexible learning pathways**, thus allowing students greater autonomy and responsibility.

The QF-EHEA and the EQF provide overarching frameworks against which national and institutional frameworks and descriptors should be calibrated. National frameworks are normally more detailed than these overarching frameworks, reflecting the range of tertiary qualifications offered in the country.

Higher Education Institutions which implement ECTS as a credit system **need an institutional framework which correlates with the national and international frame works**. The institutional framework indicates how ECTS credits are to be used, normally specifying a **minimum credit value for an educational component** (subjects - courses - modules, assignments, research projects, final papers, etc.) **to facilitate inter / multi-disciplinary programmes** which are created by combining educational components from across a range of disciplines.

The institutions, recognizing that not all credits acquired in progressing towards a qualification are at the same level (the learning outcomes achieved in the third year of a Bachelor degree, for example, will tend to be more complex than those achieved in the first year) may specify intermediate credit levels with appropriate

descriptors which (together with progression rules) **will help students in progressing along <u>their learning pathways</u>**.

Credits are a later instance in the development of a curriculum. First of all, the educational programme should be set in the context of institutional and departmental mission statements, professional specifications (regulations, requirements), and the institutional academic framework for credit allocation. It is also recommended that a needs' analysis be carried out and consultation with stakeholders be held (employers, graduates, society at large) to ascertain the demand for the programme.

Due to its outcome-based approach, the use of ECTS serves other purposes of the EHEA:
1) It facilitates the recognition of prior learning and experience and encourages a higher level of completion and wider participation in lifelong learning;
2) It establishes a closer link between educational programmes and societal requirements and enhances interaction with all stakeholders, including the world of work and the wider society;
3) It facilitates mobility within an institution or country, from institution to institution, from country to country, and between different educational sectors and contexts of learning (i.e. formal, non-formal, informal and work-based learning), through recognition and credit transfer.
4) In national legislation, the use of ECTS can be a requirement for accreditation of higher education programmes or qualifications.

4.2 Characteristic of the European credit transfer system

ECTS credits express the volume of learning based on the defined learning outcomes and their associated student workload. 60 ECTS credits are allocated to the learning outcomes and associated workload of a full-time academic year or its equivalent. ECTS credits are generally expressed in whole numbers. **The correspondence of the full-time workload of an academic year to 60 credits is often formalized by national legal provisions of European Countries**.

The student workload is an estimation of the time learners typically need to complete all learning activities such as lectures, seminars, projects, practical work, work placements, individual study required to achieve the defined learning outcomes in formal learning environments -consciously willing to study, not as a matter of happening while doing something else-. The correspondence of the full-time workload of an academic year to **60 credits, in most cases ranges from 1,500 to 1,800 hours, which means that one credit corresponds to 25 to 30 hours of work**. It should be recognized that this represents the normal workload and that for individual learners the actual time to achieve the learning outcomes will vary.

Considering an academic year as a year of time, i.e. within **twelve months**, the student workload ranges, on average, **from 4 to 5 hours a day of learning activities (from 28 to 35 per week hours)**. Instead, considering that one academic year has **ten months**, then the student workload will range, on average, from **6 to 7 hours a day of learning activities (from 35 to 42 per week hours)**.

Allocation of credits
Allocation of credits is the process of assigning a number of credits to qualifications, degree programmes (first cycle -bachelor- and second cycle -master-), or single educational components. Credits are allocated to entire qualifications or programmes according to national legislation or practice, where appropriate, and with reference to national and/or European qualifications frameworks. They are allocated to educational components, such as course units, dissertations, work-based learning and work placements, **taking as a basis the allocation of 60 credits per full-time academic year**, according to the estimated workload required to achieve the defined learning outcomes for each component.

Co-funded by the
Erasmus+ Programme
of the European Union

Award of credits

Award of credits is the act of formally granting students and other learners the credits that are assigned to the qualification and/or its components if they achieve the defined learning outcomes. In Europe, National authorities should indicate which institutions have the right to award ECTS credits. Credits are awarded to individual students after they have completed the required learning activities and achieved the defined learning outcomes, as evidenced by appropriate assessment. **If students and other learners have achieved learning outcomes in other formal, non-formal, or informal learning contexts or timeframes, credits may be awarded through assessment and recognition of these learning outcomes**.

A synthesis of how the scheme of **quantification of the student working time of the ECTS** is as follows:

▪ The credits are assigned **to all the components of a study program**: subjects-courses-, modules, practices, research projects, final integration paper, thesis, etc. and they reflect the amount of work that each component requires to achieve the intended objectives.

▪ Working time does not refer only to that invested in face-to-face activities, in the classroom or in the laboratory, but to the **total theoretical time required for an "average" student to obtain the expected learning results**. It also includes other directed academic activities, tutoring consultations, personal study, preparation of papers and exams, etc.

▪ It is stipulated that the total workload of a full-time student during an academic year should amount to 60 credits. Thus, the total workload required **to obtain a degree that lasts three or four years will cover 180 or 240 credits**.

▪ This appropriation of credits is understood as referring to a student who attends full-time university studies for a minimum of **36 and a maximum of 40 weeks per academic year**.

▪ The number of **student work hours per credit is set between 25 and 30**.

▪ Obtaining the credits requires having done the necessary work and having passed the **evaluation of the learning outcomes, <u>expressed in terms of competencies</u> about what the student should know, understand and be able to do**.

Accumulation of credits

Accumulation of credits is the process of collecting credits awarded for **achieving the learning outcomes of educational components in formal contexts and for other learning activities carried out in informal and non-formal contexts**. A student can accumulate credits in order to obtain

qualifications, as required by the degree-awarding institution, or to document personal achievements for lifelong learning purposes.

Transfer of credits

Transfer of credits is the process of having credits awarded in one context (programme, institution) recognized in another formal context for the purpose of obtaining a qualification. Credits awarded to students in one programme may be transferred from an institution to be accumulated in another programme, offered by the same or another institution. **Credit transfer is the key to successful study mobility**. Institutions, faculties, departments may make agreements which guarantee automatic recognition and transfer of credits.

4.3 Credit transfer system (CTS) and quality assurance

Good practice in using a CTS will help institutions improve the quality of their programmes and their learning mobility offer. Thus, CTS use should be quality assured through appropriate evaluation processes (e.g. monitoring, internal and external quality reviews and students' feedback) and continuous quality enhancement. In evaluating the effectiveness of a programme (including the learning outcomes, workload and assessment methods) a number of measures will be used. **These indicators may include the dropout or failure rates or longer completion times**. A programme can be considered effective when its goals are attained in due time, that is to say, when students achieve the defined learning outcomes, accumulate the required credits and obtain the qualification as planned in the programme.

The following variables can be used for **evaluating the quality of CTS implementation**:
- Educational components are expressed in terms of appropriate learning outcomes, and clear information is available concerning their level, credits, delivery and assessment;
- Studies can be completed in the time officially allocated to them (i.e. the workload associated with an academic year, a semester, trimester or a single course component is realistic);
- Annual monitoring examines any variations in patterns of achievement and results gained and follows up with appropriate revision;
- Students are provided with detailed information and advice so that they can follow progression rules, exploit options for flexible pathways and select educational components at an appropriate level for their qualification;
- Students are informed promptly of their results.

For mobile students and recognition, this means that:
- Credit transfer processes are included in the monitoring, review and validation procedures;
- Appropriate staff are designated as responsible for credit recognition and transfer matters;
- **Learning agreements are completed in all cases**; their development, and any subsequent changes to them, are subject to sensitive yet robust approval processes;
- Incoming mobile students undertake educational components from the existing Course Catalogue; they are assessed and graded like local students;

- Detailed transcripts are provided recording the credits and grades awarded;
- Recognition is given to all credits associated with successfully completed educational components undertaken as part of an approved "learning agreement" in its final version; results are issued and transmitted promptly;
- Grading tables exist for interpreting the grades awarded, so that grades and not just credits – are properly reflected in any final qualifications gained.

Student representatives should be actively engaged in quality assurance processes for CTS:
- **In internal quality assurance**, where students provide information (by responding to surveys on a regular basis, focus groups); participate in the preparation of the institutions' self-assessment reports; are actively engaged in the bodies responsible for internal quality assurance processes and monitoring of the CTS credit allocation.
- **In external quality assurance**, where students are members of external review panels of higher education institutions and/or programmes.
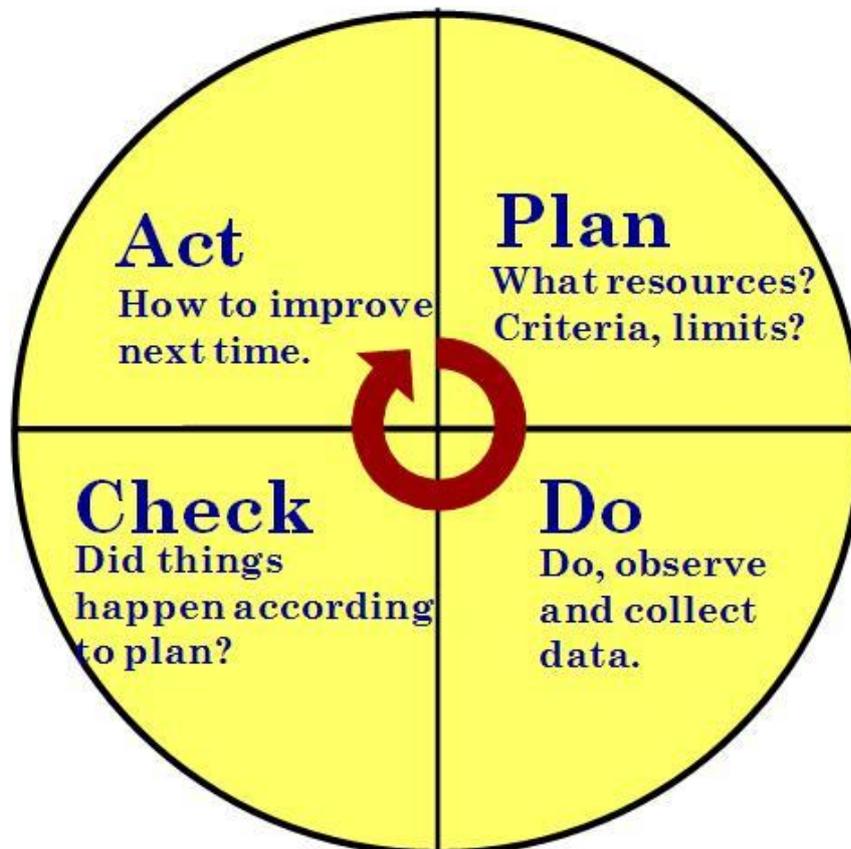
5. Quality assurance

The human interest in quality, establishing forms of regulation to obtain good products, has been a common factor throughout history. However, the treatment of quality from a systematic approach originates throughout the twentieth century applied to business and organizations of goods production. However, over time, its incorporation in other areas, such as health and education, has become increasingly evident, **with excellence being the fundamental goal of said organizations**.

The educational field today faces the challenge of continually adapting to an increasingly complex, highly technified world with new social demands, where changes happen at an increasingly faster rate. This context has led some countries to consider quality as a key element of educational systems and educational policies. In this sense, substantive changes have been taking place in the educational systems, with the incorporation of different regulatory frameworks, as well as new ways of defining curricula, academic organization, teacher training and evaluation systems. All of which has led to intense discussions regarding the concept of quality and its scope, as well as the different models of quality assessment and management.

In this framework of change and innovation, today the **quality of education is aimed at ensuring students the acquisition of knowledge, skills, abilities and attitudes they will need to be prepared for adult life**. In this sense, and in the context of Higher Education and especially at postgraduate level, the process of creation, development and accreditation of degrees is a key element

Quality assurance, instead, is the process or set of processes adopted, nationally and/or institutionally, to offer guarantees about the quality of educational programmes and qualifications awarded. The quality assurance permanently reviews the institution's resources (human-quantity and quality), infrastructure, equipment, technologies, standards, organization chart, organizational culture, information systems), the teaching and learning processes it performs and the results it obtains, to compare them against preset standards. Quality assurance is a cycle of continuous enhancement, that is, a **cyclic sequence of quality assurance and improvement activities based on the Plan - Do - Check - Act concept, proposed by Willian Deming in the first half of the 20th century**.

Continuous improvement spiral, developed by Deming in Japan, based on the PDCA circle and the statistical process control created by Shewhart

In Europe, the primary responsibility for quality assurance lies with each institution, as agreed by Education Ministers of the countries involved in the Bologna Process (Berlin Communiqué, 2003).

Internal quality assurance involves all procedures undertaken by HEIs to ensure that the quality of their programmes and qualifications meets their own specifications and those of other relevant bodies such as quality assurance agencies. External quality reviews undertaken by quality assurance agencies provide feedback to institutions and information to stakeholders. Quality assurance principles and processes apply to all modes of learning and teaching (formal, non-formal, informal, e-learning, etc.). **The European Standards and Guidelines (ESG) for Quality Assurance in the European Higher Education Area (EHEA) support quality assurance**.

The ESG are a set of standards and guidelines for internal and external quality assurance in higher education. The ESG **are not standards for quality**, nor do they prescribe how the quality assurance processes are implemented, but they **provide guidance, covering the areas which are vital for successful quality**

provision in higher education learning environments. The ESG should be considered in a broader context that also includes qualification frameworks, ECTS and the Diploma Supplement that also contribute to promoting the transparency and mutual trust in higher education in the EHEA.

When implementing the European Qualifications Framework, quality assurance (QA) was established as a necessary component of the process, **to ensure accountability and the improvement of higher education training**. It was stated that quality assurance should be carried out in accordance with the following principles:

1) Quality assurance policies and procedures should underpin all levels of the European Qualifications Framework.
2) Quality assurance should be an integral part of the internal management of education and training institutions.
3) Quality assurance should include regular evaluation of institutions, their programmes or their quality assurance systems by external monitoring bodies or agencies.
4) External monitoring bodies or agencies carrying out quality assurance should be subject to regular review.
5) Quality assurance should include context, input, process and output / results dimensions, while giving emphasis to outputs and learning outcomes.
6) Quality assurance systems should include the following elements:
   - Clear and measurable objectives and standards;
   - Guidelines for implementation, including stakeholder involvement;
   - Appropriate resources;
   - Consistent evaluation methods, associating self-assessment and external review;
   - Feedback mechanisms and procedures for improvement;
   - Widely accessible evaluation results.
7) Quality assurance initiatives at international, national and regional level should be coordinated in order to ensure overview, coherence, synergy and system-wide analysis.
8) Quality assurance should be a cooperative process across education and training levels and systems, involving all relevant stakeholders, within Member States and across the Community.
9) Quality assurance orientations at Community level may provide reference points for evaluations and peer learning.

Co-funded by the
Erasmus+ Programme
of the European Union

This holistic approach to quality assurance is far superior to the traditional concept of educational quality based almost exclusively on the results obtained by students, that is, on the evaluation of learning. Evaluation is part of a much broader context. In truth, quality assurance and evaluation of learning reinforce each other. In this way, the conception of evaluation from a broader perspective (quality assurance) **implies its application in those key components of an educational organization**, so as to know its operation. That is, knowing data on the critical variables of its structure, processes and results, in order to detect its strengths and weaknesses and, consequently, establish improvement plans.

Quality assurance is an essential strategy to guide those institutions that aim to improve systematically through processes of change and innovation. Therefore, this, **the design and use of a system of evaluation tools based on indicators and standards on each of the quality assessment objects is essential**.

Co-funded by the
Erasmus+ Programme
of the European Union

6. Glossary

Assessment methods: the whole range of written, oral and practical tests / examinations, projects, performances, presentations and portfolios that are used to evaluate the learner's progress and ascertain the achievement of the learning outcomes of an educational component (unit/module).

Assessment criteria: descriptions of what the learner is expected to do and at what level, in order to demonstrate the achievement of a learning outcome.

Basic (key) skills: essential skills which people need in order to be effective members of a modern society and a flexible, adaptable and competitive workforce. Examples of key skills are communication, collaboration and group working, literacy, numeracy, use of information technology and knowing how to learn.

Competency: the European Qualifications Framework (EQF) defines competence as the ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the EQF competencies are described in terms of motivation, responsibility and autonomy to use knowledge and skills. The terms **'competence' and 'competency' are used interchangeably**. A competency combines knowledge, skills and behaviors (attitudes and values). **Competency is a cluster (set) of integrated knowledge, skills (abilities) and commitments -attitudes and values-, that enable a person (or an organization) to act effectively in a job or successfully face the uncertainty associated with different situations**.
Within the Competence-Based Higher Education Model, competencies can be categorized either by the moment in which they are developed, or by their characteristics.
A) **Competencies, according to the moment in which they are developed**:
1) Intended competencies: competencies that students are supposed to acquire by a study programme
2) Perceived competencies:
   - Students' self-assessment of the achieved competencies;
   - Teachers' perception of the competencies achieved by the students.
   A study programme reaches its goal if the perceived student competencies are on the same level as the intended student competencies defined at the beginning.
B) **Competencies, according to their characteristics**:

1) Basic (key);
2) Transversal (generic);
3) Specific (subject-specific).

The **general competencies of a degree can be included**. Do not confuse with the generic (transversal).

Course syllabus or programme of the career: one of the two guides that emerge from the curriculum design, the other is the program of the subjects. Document that defines the planning and organization of each subject, area or module of a course. It is the second level of concretion of the curriculum. Course syllabus is the fundamental operative tool of teachers' work. In general, the course syllabus presents the following development points:

- Introduction: purpose of the career and justification of its implementation;
- Duration and organization: by quarters, semesters or yearly;
- Education modality: classroom, distance learning, blended learning;
- Structuring of the curricular spaces: subjects, units, areas or modules;
- Definition of the general and specific objectives of the career;
- Expected learning outcomes that may include competencies to be developed;
- Contents of curricular spaces (subjects, modules, units, compulsory subjects, electives);
- Teaching hours: number of hours of theory and practice of each curricular space;
- Workload of the student: credits;
- Qualification requirements;
- General bibliography;
- Others.

Many times, the curriculum or program of the career is presented synthetically, only as the sequence of areas / subjects / modules that the student is required to pass in order to receive the corresponding certification.

Credit (ECTS): ECTS credits express the volume of learning based on the defined learning outcomes and their associated workload. 60 ECTS credits are allocated to the learning outcomes and associated workload of a full-time academic year or its equivalent, which normally comprises a number of educational components to which credits (on the basis of the learning outcomes and workload) are allocated. ECTS credits are generally expressed in whole numbers.

Credit mobility: mobility of an exchange student, who stays at a host institution for a period, during which s/he can carry out activities awarding academic credits, which are then recognised by the home institution.

Credit transfer: process that allows credit awarded by one higher education awarding body to be recognised by another institution and to be counted in accordance with the requirements of a programme at another institution; or that allows credit gained in a particular programme to contribute to the requirements of a different one.

Curriculum; curriculum design: **project that presides over formal educational activities of a career**, where the fundamentals and intentions are established:
- Socio-anthropological and ethical: what to teach for;
- Epistemological and gnoseological: what to teach;
- Didactic: how to teach.

The curriculum design is a public document that has a normative character and establishes common contents. It is a broad term covering both academic and subject requirements and the processes for organizing and managing the teaching and learning. The curriculum is a construction that presents **three moments**, which are three different experiences:

1) **Design**: planning and foundation of contents and their pedagogical praxis;

2) **Implementation**: implementation of all planned interactions, including emotional, social, cognitive and innovative

3) **Evaluation**: comparison of results against planned objectives and targets. This is an evaluation of the curriculum, both internal and external.

Along with the curricular design there are usually constructed **guides for the implementation**, which are very useful for the teachers directly responsible for its implementation to orient their activities. These **guides represent different levels of concretion of the curriculum and must be distinguished from the curriculum itself**:

a) **Course syllabus (of the career)** often called **course programme**;

b) **Subject programmes**.

The curriculum has at least the following components:
- Rationale;
- Career identification;
- Admission profile;
- Learning outcomes;
- Curricular structure and organization;
- General methodology of teaching and learning processes;

- General methodology of evaluation mechanisms;
- Others.

Cycle: one of the objectives in the Bologna Declaration in 1999 was the 'adoption of a system based on two main cycles, undergraduate and graduate.' In 2003 doctoral studies were included in the Bologna structure, which were referred to as the third cycle. The EHEA has thus defined a hierarchy of three Higher Education cycles (first cycle, second cycle and third cycle). All higher education qualifications in the European Higher Education Area are located within these three cycles.

Cycle (Level) Descriptors: generic statements about the expected outcomes for each of the three cycles. A good example of general cycle (level) descriptors are the so-called Dublin Descriptors, which have served as one of the foundations (along with ECTS) for the Framework for Qualifications of the European Higher Education Area.

European Higher Education Area (EHEA): it was launched at the Bologna Process' decade anniversary, in March 2010, during the Budapest-Vienna Ministerial Conference. Building on the main objective of the Bologna Process since its inception in 1999, the EHEA is meant to ensure more comparable, compatible, coherent and attractive systems of higher education in Europe.

Evaluation: systematic assessment of the effectiveness of a teaching or learning element or activity, carried out for the benefit of the teacher and institution. It should be contrasted with assessment activities which are carried out to gauge the progress of an individual student's learning.

Feedback: advice and commentary given by a teacher on examinations, coursework, or classroom activity. This can be oral or written and helps learners to understand their progress.

Flexibility: course syllabus (of the career) that allow students to choose their own time, pace and place of learning. It also may allow students to choose subject or topics of interest to them.

Formal learning: learning is delivered by accredited teachers in an institutional setting also accredited. Learning with formal evaluation and acquisition of previously established educational credits. This contrasts with non-formal and informal learning.

Formative assessment: assessment aimed primarily at determining the strengths and weaknesses of a student's work, with the objective of improvement. The assessment is said to be formative, because the students learn by doing the work and then having the lecturer comment on how well they have achieved their knowledge, where they have done worse, how to improve, and what steps might be taken to do this. To further enable students to achieve the task successfully, it is important that students be given the criteria for success at the outset: a specification of what they must do in order to complete the task satisfactorily. Formative assessment demands feedback to the student in some form and may contribute to summative assessment, although this may not always happen.

Informal learning: learning that takes place outside formal settings and often takes place in the context of some other experience than in that of an intentional learning activity. Such learning results from daily activities related to work, family or leisure and is not organised or structured in terms of objectives, time or learning support. It may be unintentional from the learner's perspective. Examples of learning outcomes acquired through informal learning are:

- Skills acquired through life and work experiences;
- Project management skills;
- ICT skills acquired at work or outside work;
- Languages learned;
- Intercultural skills acquired during a stay in another country;
- Skills acquired through volunteering, cultural activities, sports, youth work and through activities at home, e.g. taking care of a child.

Council of the European Union Recommendation 2012/C 398/01

Interaction: relation of exchange that exists among all the actors of the processes of teaching and learning: between the teacher-tutor and the students and between the students themselves.

Knowledge: in the context of EQF, knowledge is described as the theoretical and/or factual information a person manages.

Learner: individual engaged in a learning process (formal, non-formal or informal learning). Students are learners involved in a formal learning process.

Learning analytics: measurement, collection, analysis and reporting of students' activity, particularly tracking their use of web pages, carried out in order to visualise and analyse learning interactions. This can be for a number of purposes: the institution can gain insight into the effectiveness of courses;

teachers can detect problematic areas of a course, monitor their students' learning, and individual learners can visualise their achievements and behavior in relation to others.

Learning outcomes (objectives or results): statements indicating what a learner "will be able to do" at the end of a given course or programme.

Learning outcomes **are stated for the entire career** (not for each subject or module) in terms of what the student "will be able to do" at the end of the studies and get the diploma. However, learning outcomes **are indeed closely related to the subjects, or group of subjects (axes, areas…)** of the career.

Learning outcomes synthesizes and express the **level of competencies attained by the student verified by assessment of said competencies**.

Competencies are also stated for the whole career but are assessed within the subjects and modules.

Learning outcomes and competencies are stated "at the level" of the career but competencies are evaluated "at the level" of subjects and modules. Learning outcomes are assessed indirectly, in each subject through competencies.

Module: component of a subject area; separate and coherent block of learning, usually over a term or semester. Part of a modular programme of studies where the programme is divided into a range of similar sized segments.

Non-formal learning: learning that occurs in a structured setting as a deliberate activity but is not associated with formal assessment or credit. Learning which takes place through planned activities (in terms of learning objectives, learning time) where some form of learning support is present (e.g. learner-teacher relationships); it may cover programmes to impart work skills, adult literacy and basic education for early school leavers; very common cases of non-formal learning include:

- In-company training, through which companies update and improve the skills of their workers, such as ICT skills;
- Structured on-line learning (e.g. by making use of open educational resources);
- Courses organised by civil society organizations for their members, their target group or the general public.

Peer assessment / review: assessment or review of students' work carried out by other students.

Personalized learning: tailored curriculum to meet the learning needs of an individual learner; typically, this implies a negotiation between teacher and learner.

Practicum: Integrated set of practices carried out by students of a certain career, in institutions where the profession is put into action, with the aim of **integrating theoretical knowledge with the daily reality of professional practice**. They can also be research activities.

Programme (educational): sequenced set subject areas (subjects / modules) representing a student's total study requirement and usually leading to an award on successful completion. A set of educational components based on learning outcomes that are recognised for the award of a qualification.

Qualification: any degree, diploma or other certificate issued by a competent authority attesting the successful completion of a legally recognised programme of study.

Quality assurance: process or set of processes adopted, nationally and / or institutionally, to offer guarantees about the quality of educational programmes and qualifications awarded. The quality assurance permanently reviews the institution's resources (human-quantity and quality), infrastructure, equipment, technologies, standards, organization chart, organizational culture, information systems), the teaching and learning processes it performs and the results it obtains, to compare them against preset standards. Quality assurance is a cycle of continuous enhancement, that is, a **cyclic sequence of quality assurance and improvement activities based on the Plan - Do - Check - Act concept, proposed by Willian Deming in the first half of the 20th century**.

Skills: In the context of EQF, skills are described as:
- **Cognitive**, involving the use of logical, intuitive and creative thinking;
- **Practical**, involving manual dexterity and the use of methods, materials, tools and instruments.

Specific competencies (Subject-specific competencies; Subject-related competencies): knowledge and skills related to the disciplinary contents and professional practices.

Stakeholder: broad term to include students, teachers, educational managers, employers, etc., any of whom will have a legitimate interest in aspects of the learning provision.

Transfer (of credits): process of having credits awarded in one context (programme, institution) recognised in another formal context for the purpose of obtaining a qualification. Credits awarded to students in one programme may be transferred from an institution to be accumulated in another programme, offered by the same institution or by another one. Credit transfer is the key to successful study mobility. Institutions, faculties, departments may make agreements which guarantee automatic recognition and transfer of credits.

Transferable skills (transferable competencies; transversal competencies; generic competencies): skills such as communication, problem-solving and teamwork that can be applied in different academic and work contexts.

Workload (student): estimation of the average time learners typically needed to complete all learning activities such as lectures, seminars, projects, practical work, work placements, individual study, required to achieve the defined learning outcomes in formal learning environments. The correspondence of the full-time workload of an academic year to 60 credits is often formalised by national legal provisions. In most cases, student workload ranges from 1,500 to 1,800 hours for an academic year, which means that one credit corresponds to 25 to 30 hours of work.

7. Acronyms

CBHE: Cross-border Higher Education.

DS: Diploma Supplement.

EACEA: Education, Audiovisual and Culture Executive Agency.

EC: European Commission.

ECTS: European credit transfer system.

ECVET: European Credit System for Vocational Education and Training.

EHEA: European Higher Education Area.

ENQA: European Association for Quality Assurance, in Higher Education.

EQF: European Qualifications Framework for Lifelong Learning.

EQAR: European Quality Assurance Register for Higher Education.

ERASMUS: European Region Action Scheme for the Mobility of University Students.

EQF: European qualifications framework.

ESG: European Standards and Guidelines for Quality Assurance.

ESU: European Students' Union.

EUA: European University Association.

EURASHE: European Association of Institutions in Higher Education.

EVEA: Entorno Virtual de Enseñanza y Aprendizaje.

FQ-EHEA: Framework of Qualifications-European Higher Education Area.

HEI: Higher Education Institution.

ICT: Information and Communication Technologies.

ISO: International Organizations for Standardization.

LA: Latin-American.

LO: Learning Objectives.

NQFs: National Qualifications Frameworks.

QA: Quality Assurance.

SCL: Student Centered Learning.

WP: Work Package.

8. Bibliography

1. ANECA. Guía de apoyo para la redacción, puesta en práctica y evaluación de los Resultados del Aprendizaje. Madrid: ANECA.2013.
   Recuperado de:
   http://www.aneca.es/Documentos-y-publicaciones/Otras-guias-y-documentos-de-evaluacion

2. ANECA. Enfoque al aseguramiento de la calidad de los programas-conjuntos. Madrid: ANECA. 2013. Recuperado de:
   http://www.aneca.es/Documentos-y-publicaciones/Otras-guias-y-documentos-de-evaluacion

3. Bergsmann, Evelyn; Schultes, Marie-Therese; Winter, Petra; Schober, Barbara; Spiel, Christiane. Evaluation of competence-based teaching in higher education: From theory to practice. Original Research Article Evaluation and Program Planning, Volume 52, Pages 1-9. Vienna, Austria. 2015.

4. Blömeke, Sigrid; Zlatkin-Troitschanskaia, Olga; Kuhn, Christiane and Fege, Judith (Eds.), Modeling and measuring competencies in higher education: Tasks and challenges (pp. 159–170). Rotterdam: Sense Publishers. 2013.

5. Bologna Working Group on Qualifications Frameworks. A Framework for Qualifications of the European Higher Education Area. Ministry of Science, Technology and Innovation. Copenhagen. 2005.

6. EACEA: Education, Audiovisual and Culture Executive Agency; The European Higher Education Area. Bologna Process. Implementation Report. Brussels, 2018.

7. European Association for Quality Assurance in Higher Education (ENQA); European Students' Union (ESU); European University Association (EUA); European Association of Institutions in Higher Education (EURASHE); In cooperation with: Education International (EI), BUSINESSEUROPE, European Quality Assurance Register for Higher Education (EQAR): Standards and Guidelines for Quality Assurance in the European Higher Education Area. Brussels, 2015.

8. ENQA: European Association for Quality Assurance in Higher Education; Quality Assurance Professional Competencies Framework. Brussels, 2016.

9. European Commission. The Bologna process and the European higher education area. Retrieved from http://ec.europa.eu/education/policy/higher-education/bologna-process_en.htm. 2014.

10. European Qualifications Framework for Lifelong Learning (EQF) European Commission. Luxembourg, 2008.

11. Fernández Salinero C. Las competencias en el marco de la convergencia europea: Un nuevo concepto para el diseño de programas educativos. Encounters/Encuentros/Rencontres on Education, 7, 131-. Madrid, 2006.

12. IQM-HE. Handbook for Internal Quality Management in Competence-Based Higher Education. Retrieved from http://ec.europa.eu/programmes/erasmus-plus/projects/ .2016.

13. Patricio, J. Un modelo de guía docente desde los resultados de aprendizaje y su evaluación. Zaragoza: Instituto de Ciencias de la Educación. Universidad de Zaragoza, 2010.

14. Rodríguez Quintana, E.; Rodríguez Mantilla, J.; Fernández, F.J.; Martínez Zarzuelo, A.; León Carrascosa, V.; Plangger, L.; Garrote, N.; Fernández Díaz, M.J. y Jover, G. Concreción y formulación de resultados de aprendizaje en la formación universitaria, en REDINE (Ed.) Conference Proceedings EDUNOVATIC 2018. Eindhoven: Adaya Press, pp. 15-20. 2019.

15. Todorovski, Blazhe; Nordal, Erin; Isoski, Tijana. Overview on Student-Centered Learning in Higher Education in Europe: Research Study. European Students' Union ESU. Brussels, 2015.

9. Links of interest of CONSENS project

1) ANECA. Guía de apoyo para la redacción, puesta en práctica y evaluación de los Resultados del Aprendizaje. Madrid: ANECA.2013. Recuperado de:
http://www.aneca.es/Documentos-y-publicaciones/Otras-guias-y-documentos-de-evaluacion

2) ANECA. Enfoque al aseguramiento de la calidad de los programas-conjuntos. Madrid: ANECA. 2013. Recuperado de:
http://www.aneca.es/Documentos-y-publicaciones/Otras-guias-y-documentos-de-evaluacion

3) Association for the Evaluation of Educational Achievement (IEA):
www.iea.nl

4) Bologna Process and the European Higher Education Area:
http://ec.europa.eu/education/policy/higher-education/bologna-process_en

Bologna progress report 2018:
https://op.europa.eu/en/publication-detail/-/publication/2fe152b6-5efe-11e8-ab9c-01aa75ed71a1/language-en?WT.mc_id=Selectedpublications&WT.ria_c=677&WT.ria_f=706&WT.ria_ev=search

5) Education and Training 2020:
http://ec.europa.eu/education/policy/strategic-framework_en

6) Erasmus Plus Beneficiaries Space:
https://eacea.ec.europa.eu/erasmus-plus/beneficiaries-space_en

7) European Association for Quality Assurance in Higher Education (ENQA):
http://www.enqa.eu
- Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). (2015). Brussels, Belgium:
http://www.enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf

8) European Association of Institutions on Higher Education (EURASHE):
https://www.eurashe.eu

9) European Commission. ECTS users' guide: glossary and examples.
https://ec.europa.eu/education/ects/users-guide/glossary_en.htm#ectsTop

10) European Commission (2014). The Bologna process and the European higher education area. Retrieved from:
http://ec.europa.eu/education/policy/higher-education/bologna-process_en.htm

11) European Commission Education and Training:
http://ec.europa.eu/education

12) European Consortium for Accreditation in higher education (ECA):
http://ecahe.eu
European Consortium for Accreditation in higher education(ECA): Dublin descriptors:
http://ecahe.eu/w/index.php/Dublin_Descriptors

13) European Credit System for Vocational Education and Training (ECVET):
http://ec.europa.eu/education/policy/vocational-policy/ecvet_en.htm

14) European Credit Transfer and Accumulation System (ECTS):
http://ec.europa.eu/education/resources/european-credit-transfer-accumulation-system_en

15) European Higher Education Area (EHEA):
http://www.ehea
• European Higher Education Area Bologna Process:
http://www.ehea.info/pid34247/how-does-the-bologna-process- work.html
• Student Centered Learning:
http://www.ehea.info/pid34437/student-centred-learning.html
• European student convention:
http://www.ehea.info/cid104040/t4scl-stakeholders-forum-and-20th-european-student-convention.html
• Three-cycle system of higher education:
https://www.ehea.info/pid34438/three-cycle-system.html

16) European Qualification Framework (EQF):
https://ec.europa.eu/ploteus/search/site?f%5B0%5D=im_field_entity_type%3A97

• Recognition of skills and qualifications:

http://ec.europa.eu/education/policy/strategic-framework/skills-qualifications_en

- European inventory of validation of non-formal and informal learnings:
http://www.cedefop.europa.eu/en/events-and-projects/projects/validation-non-formal-and-informal-learning/european-inventory

- A set of five standardized documents and a skills passport available for free in 26 languages, designed to enable users to present their skills, qualifications and experience across Europe:
http://europass.cedefop.europa.eu/

17) European Quality Assurance Register (EQAR):
https://www.eqar.eu

- Key Considerations for Cross-Border Quality Assurance in the European Higher Education Area:
http://www.eua.be/Libraries/publications-homepage-list/keyconsiderations-for-cross-border-quality-assurance-in-the-ehea

18) European Skills, Competencies, Qualifications and Occupations (ESCO):
https://ec.europa.eu/esco/portal/home

19) European University Association (EUA):
http://www.eua.be

20) Internacional de la educación:
https://www.ei-ie.org/

21) International Council for open and distance education (ICDE):
https://wcol2019.ie/international-council-for-open-and-distance-education/

22) Scottish Funding Council Glossary:
http://www.sfc.ac.uk/housekeeping/glossary/glossary.aspx

23) UNESCO (2014), ISCED: International Standard Classification of Education:
http://www.uis.unesco.org/Education/Pages/international-standard-classification-of-education.aspx