UNIVERSITÀ DEGLI STUDI DI GENOVA

PICASA Final Conference

Yerevan (Armenia), 18-21 April 2017

European Dimension of Higher Education and EUR-ACE Accreditation: a Perfect Marriage

Angelo Musaio - Alfredo Squarzoni

University of Genoa

Topics of the presentation

- A) EU Dimension of HE: Comparability of Study Programmes
- B) EUR-ACE Accreditation: Requirements

A) *EU Dimension of Higher Education: Comparability of Study Programmes*

Aim and objectives of the Bologna Process

To establish the European Area of Higher Education and to promote the European System of Higher Education world-wide

through

the adoption of a system of **easily readable and comparable degrees** *(1st objective)*,

organized in **three main cycles** *(2nd objective)*,

with the students' workload measured in **credits** *(3rd objective)*,

able to **assure their quality** *(5th objective)* in a credibile way,

in order to promote **mobility** for students *(4th objective)* and

the necessary **European dimensions in higher education** *(6th objective).*

Comparability conditions

In order be comparable, Study Programmes (SPs) must have

comparable duration,

or

comparable students' workloads

measured in **ECTS credits**, …

…

comparable programme learning outcomes,

consistent with the programme learning outcomes shared at international level, …

… and must

assure their quality,

i.e.

assure that every effort is made in order to achieve the established programme learning outcomes.

1) **Comparable duration,**
2) **Comparable programme learning outcomes,**
3) **Quality assurance**

are the conditions for the comparability of SPs.

1) ***Comparable Duration***

At this regard, the Bologna process suggests an organization of the SPs in three main cycles:

- First Cycle - Bachelor
- Second Cycle - Master
- Third Cycle - Doctorate

Guidelines for the association of credits with qualifications within national frameworks

(From '**A Framework for Qualifications of the European Higher Education Area**'*)*

(http://www.bdp.it/lucabas/lookmyweb/templates/up_files//Processo_Bologna/Doc%20Qualification%20Framework.pdf)

- First cycle qualifications may typically include/be represented by 180-240 ECTS credits;
- Second cycle qualifications may typically include/be represented by 90-120 ECTS credits – the minimum requirement should amount to 60 ECTS credits at second cycle level;
- Third cycle qualifications do not necessarily have credits associated with them.

2) *Comparable Programme Learning Outcomes: Student-Centred Programmes*

The objective of the comparability of the programme learning outcomes has had (or should have had) as a consequence the **necessity of a new approach for designing SPs after Bologna**.

Input-based versus output-based SPs

The ‘old’ degree programmes can be considered as ‘**input-based**’ or ‘**staff- centred**’.

Such programmes are based on the assumption that **the proper object of study is what the individual professor thinks the student should learn in his/her course unit**.

In these programmes the **emphasis is placed on the ‘teaching’, i.e. on the individual interests of academic staff**.

On the contrary, the aim of a '**student-centred programme'** is **to make students as competent as is feasible in a given timeframe for their future role in society**.

In these programmes **the focus is no more on what a student has been taught, but on the 'learning', i.e on what a student has learned and is able to do**.

Consequently, programmes leading to a Bachelor or Master degree are no longer to be described and planned solely according to their content, but mainly according to the *competences* to be developed and obtained by graduates and the *programme learning outcomes* to be achieved by students at the completion of the educational process.

Competences

In the EHEA, the definition of ***competence*** to be adopted is the one proposed in the European Qualifications Framework for lifelong learning (EQF for LLL) (http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008H0506(01)&from=EN)

"Competence means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development"*

(even if in the context of the same document competence is described in terms of responsibility and autonomy, giving place to some confusion).

---

* According to EQF for LLL, '**skills**' means the ability to apply knowledge and use know-how to complete tasks and solve problems.

Programme Learning Outcomes

Programme learning outcomes have an internationally shared definition: ***"statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of a process of learning"***.

Design of Student-Centred Programmes

Fundamental steps of the design of a student-centred programme are:

a) **Identification of the educational needs of the stakeholders**

b) **Definition of the programme aims in terms of programme educational objectives (programme cmpetences)**

c) **Definition of the programme learning outcomes**

d) **Definition of the programme structure**

a) *Identification of the educational needs*

The SP should identify the educational needs of all its stakeholders and **in particular those of the labour market of reference**.

The **educational needs should be identified in a way appropriate for the definition of the educational objectives of the SP**.

To this end, the educational needs should be identified in terms of functions expected for the graduates in the first years of their placement in the labour market and required competences.

b) Definition of the programme educational objectives

The study programme should define **educational objectives in terms of 'professional profiles' of the graduates, i.e. functions students are to be prepared for and associated key competences** to be developed and obtained by graduates, consistent with the mission of the institution the study programme belongs to and the identified educational needs.

c) Definition of the programme learning outcomes

The study programme should define **programme learning outcomes, in terms of what students are expected to know, understand and/or be able to demonstrate** after completion of the educational process, consistent with the national qualification framework, if any, and the established educational objectives (programme competences).

d) Definition of the programme structure

- **Definition of the curriculum** (approved set of course units or modules)
- **Definition of the characteristics of the course units**

3) Quality Assurance

Quality of SPs

Coherently with the ISO 9000 definition of quality, for '**study programme quality**' it is intended ***the grade (level) of achievement of the objectives established coherently with the needs and expectations of all those who are interested in the educational service provided, that is the 'interested parties' or stakeholders***.

Quality assurance of SPs

Always coherently with the ISO 9000 definition of quality assurance, for '**study programme quality assurance**' it is intended ***the whole of the activities (processes) for the management of the educational service aimed at achieving the established educational objectives and then at 'ensuring trust' in meeting the quality requirements to all interested parties***.

Consequently, the definition of a QA system of a SP requires the **identification of the whole of the activities (processes) for the management of the educational service aimed at achieving the established educational objectives**.

Standards and Guidelines for QA in the EHEA

Today the definition of suitable academic strategies in order to promote SP quality can rely on the standards and guidelines for QA established in the document

Standards and Guidelines for Quality Assurance in the European Higher Education Area (**ESG**)

(http://www.enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf).

Documentation of QA

Comparability of SPs requires also a **complete, clear, updated and easily available documentation of the SPs' characteristics** (educational objectives, educational process, available resources, results of the educational process, management system), in other words, **of the QA of SPs**.

- The availability of the documentation of the QA of SPs fulfils a **requirement established by the ESG**, (Part 1 - 1.7 Public information).

- The availability of the documentation of the QA of SPs is **necessary in order to make possible the comparison of SPs and to 'ensure trust' in their capacity to achieve the established educational objectives**.

- Documentation of the QA of SPs constitutes a **powerful incentive to the improvement of SPs' quality** (as a matter of fact, when a SP is required to document its quality, in case of bad quality it is also stimulated to adopt the opportune actions for its improvement).

- Documentation of the QA of SPs is **necessary in any quality assessment and accreditation process**.

Information and data to be documented should fulfil **specific characteristics directly connected with the needs of transparency and comparability**:

- they should have a simple structure and be drawn up in a short and essential form, according to drawing-up modes (extension, language, reading format) homogeneous at national (and international) level, and
- They should be easily accessible on the net, today the most common and used mean to get information on everything, SPs included.

B) *EUR-ACE Accreditation*

EUR-ACE (EURopean ACcredited Engineer) is the label awarded to accredited engineering study programmes (ESPs) at Bachelor and Master level.

The EUR-ACE label is run by the European Network for Accreditation of Engineering Education – **ENAEE** (www.enaee.eu).

Accreditation Standards

The standards which ENAEE requires of ESPs which are accredited by agencies are described in terms of:

1) **student workload requirements**,
2) **programme learning outcomes**,
3) **programme management**,

specified in the document ***EUR-ACE Framework Standards and Guidelines'*** **(EAFSG)** (http://www.enaee.eu/wp-assets-enaee/uploads/2012/02/EAFSG_full_nov_voruebergehend.pdf)

1) ***Student workload requirements***

Student workload requirements are described using ECTS credits and are the same established in the document ***A Framework for Qualifications of the European Higher Education Area***.

2) ***Programme learning outcomes***

Programme learning outcomes describe the knowledge, understanding, skills and abilities that an accredited ESP must enable a graduate to demonstrate.

They are described separately for both Bachelor and Master Degree programmes with reference to the following eight **learning areas**:

- *Knowledge and Understanding*;
- *Engineering Analysis*;
- *Engineering Design*;
- *Investigations*;
- *Engineering Practice*;
- *Making Judgements*;
- *Communication and Team-working*;
- *Learning*.

3) ***Programme management standards***

Programme management standards specify the key areas of programme management that ESPs must fulfil in order to be accredited.

1. *Programme Aims*
2. *Teaching and Learning Process*
3. *Resources*
4. *Student admission, transfer, progression and graduation*
5. *Internal Quality Assurance*

The EUR-ACE standards for programme management are differently organised but substantially consistent with the ESG.

ESG Standards	ENAEE Standards
1.2 Design and approval of programmes	2.4.1 Programme Aims
1.3 Student-centred learning, teaching and assessment	2.4.2 Teaching and Learning Process
1.5 Teaching staff 1.6 Learning resources and student support	2.4.3 Resources
1.4 Student admission, progression, recognition and certification 1.7 Information management	2.4.4 Student admission, transfer, progression and graduation
1.1 Policy for quality assurance 1.8 Public information 1.9 On-going monitoring and periodic review of programmes	2.4.5 Internal Quality Assurance
1.10 Cyclical external quality assurance	*Intrinsic to the accreditation process*

The **guidelines** that follow the standards are not prescriptive, but are intended to assist agencies and HEIs in meeting the standards.

Programme managers are free to satisfy the standards in accordance with their own traditions and resource.

ENAEE Policy for Spreading EUR-ACE Accreditation

ENAEE does not accredit engineering degree programmes.

ENAEE carries out its mission by evaluating quality assurance and accreditation agencies in the EHEA in respect of their standards and procedures when accrediting engineering degree programmes.

Those agencies which satisfy ENAEE in respect of these matters are authorized by ENAEE to award the EUR-ACE label to the engineering degree programmes that they accredit.

Since the beginning EUR-ACE accreditation have been implemented also in non-EU Countries, like Russia and Turkey.

ENAEE has currently 21 full members and 4 associate members.

The agencies authorized to award the EUR-ACE label are 13.

To date, the ESPs accredited are more than 2.000, not only in Europe.

There is convincing evidence that the **EUR-ACE model can be successfully applied to other Regions outside the EU**.

In particular, **ENAEE is interested to spread the EUR-ACE label in Countries with an organization of their Higher Education consistent with the Bologna process requirements**.

To this end, **ENAEE policy is to spread the EUR-ACE accreditation through the identification/creation of National Agencies to be authorized to award the EUR-ACE label**.

Significant results have already been obtained in the Central Asian region, in which University of Florence run the TEMPUS project QUEECA (Quality of Engineering Education in Central Asia).

The End