



Curricular development: The design of study programme, degree course

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With compliments to
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Do students enrolled in higher education around Europe develop the competences they need?

Are study programmes delivering their promises?

Can we learn to compare students' achievements in different countries in a meaningful way?

CALOHEE project “Measuring and comparing learning outcomes in high education”

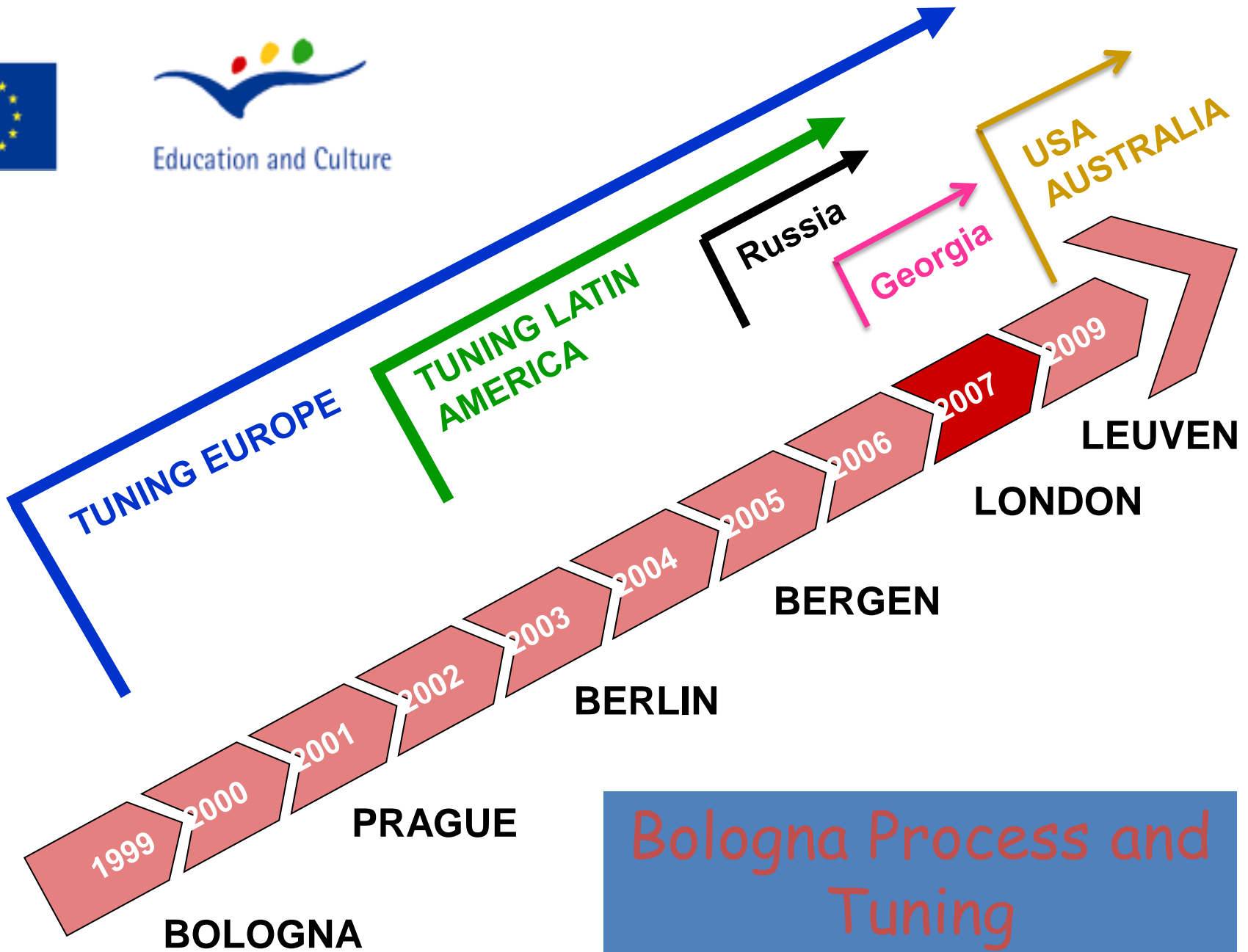
<https://www.calohee.eu/>

5 good reasons for the constant change

- Rapidly changing technology.
- Growing cooperation with professional world.
- Need for constant modernization of curricula.
- Mass education.
- Growing number of higher education providers.

Inspiration and Sources

- The **Bologna Process** is a collective effort of public authorities, universities, teachers, and students, together with stakeholder associations, employers, quality assurance agencies, international organisations, and institutions, including the European Commission. The main focus: the introduction of the three cycle system; strengthened quality assurance and easier recognition of qualifications and periods of studies. Bologna declaration signed in 1999. http://ec.europa.eu/education/policy/higher-education/bologna-process_en
- **Lisbon Strategy** – launched by EU heads in 2000 "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion".
- **ECTS** – European Credit Transfer and Accumulation system designed to make it easier for students to move between different countries. Since they are based on the learning achievements and workload of a course, a student can transfer their ECTS credits from one university to another so they are added up to contribute to an individual's degree programme or training http://www.aic.lv/ace/ace_disk/ECTS/Abo_ECTS.htm
- **TUNING** Educational Structures in Europe started in 2000 as a project to link the political objectives of the Bologna Process and at a later stage the Lisbon Strategy to the higher educational sector. Over time Tuning has developed into a Process, an approach to (re-)designing, develop, implement, evaluate and enhance quality first, second and third cycle degree programmes. <http://www.unideusto.org/tuningeu/>



TUNING EUROPE

TUNING LATIN AMERICA

Russia

Georgia

USA AUSTRALIA

1999

2000

2001

2002

2003

2004

2005

2006

2007

2009

BOLOGNA

PRAGUE

BERLIN

BERGEN

LONDON

LEUVEN

Bologna Process and Tuning

Why institutions resist change?

It is usually easier and less risky to do nothing than to attempt to change.

Universities exist in a culture of competition among institutions, programmes and faculty. Result - cooperation is often rarely rewarded.

Faculty and admin staff will rarely be willing to exchange what they already do, even if they are not happy with it, for the unknown.

Tradition is an extremely powerful force both within and outside of the academy.

Why institutions resist change?

Assessment and accountability are viewed by many as evils to be avoided rather than as tools for improving what they do or the quality of their institution.

Significant change will never occur until the forces for change are greater in combination than the forces preserving the status quo.

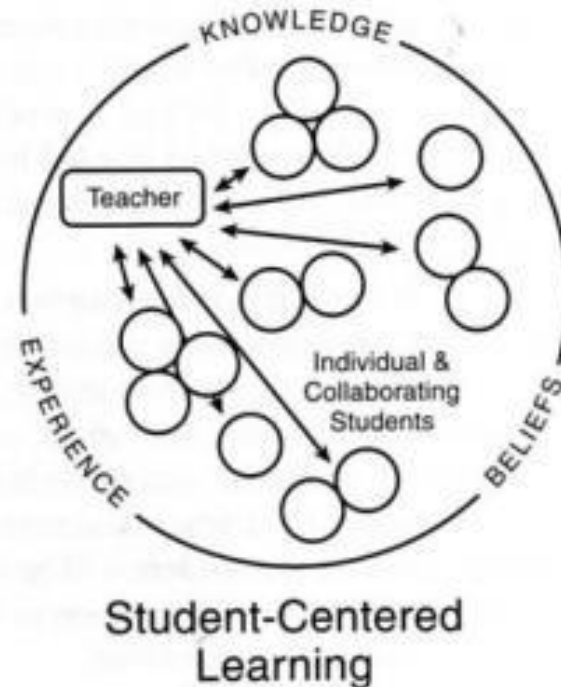
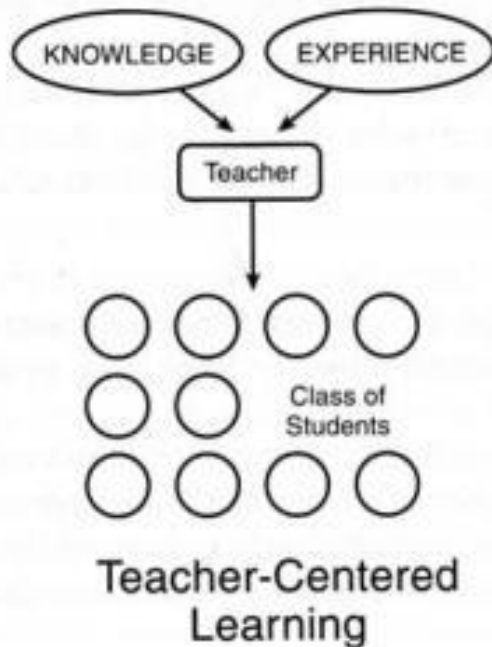


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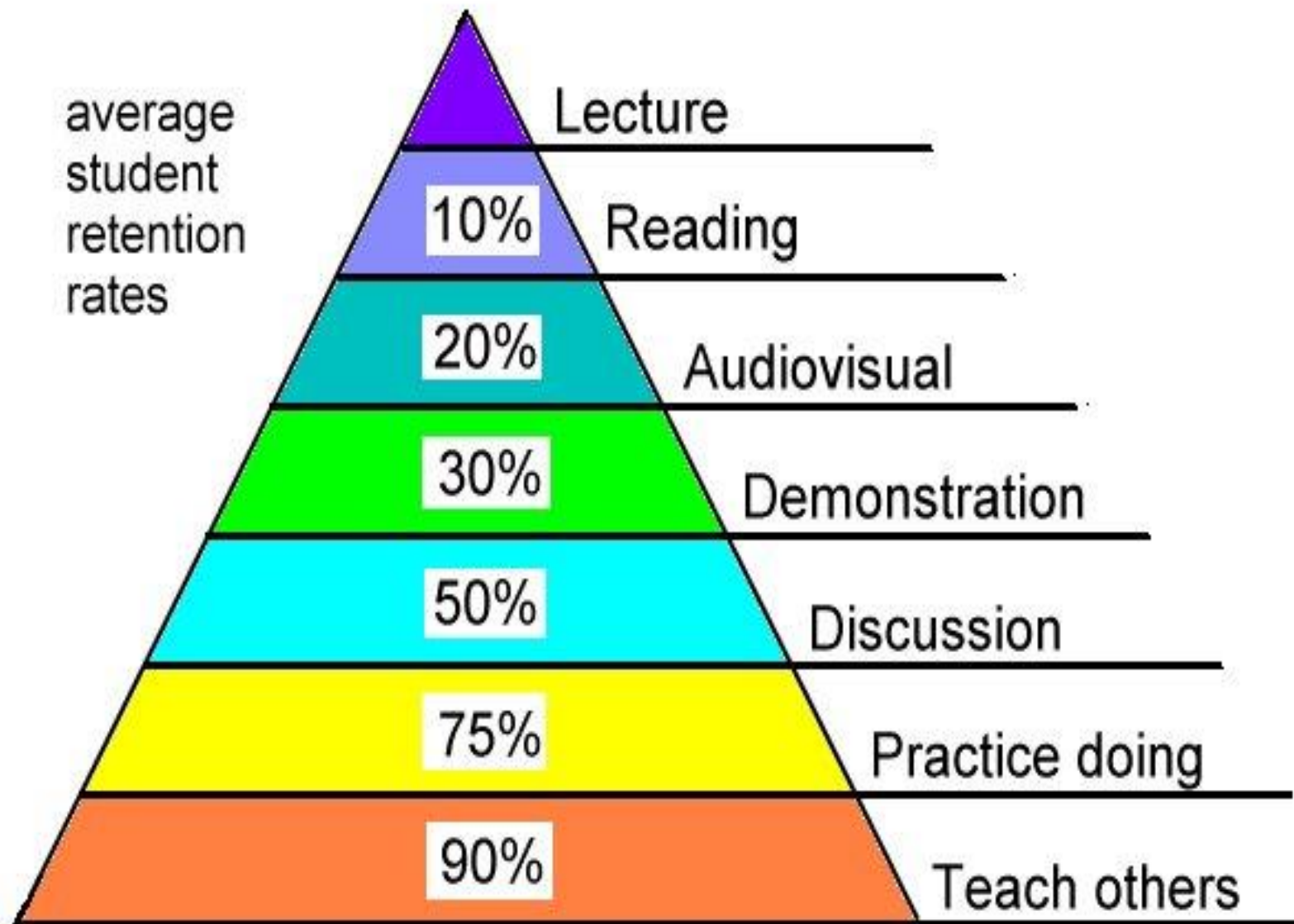
Students centered learning Principles

- *The learner has full responsibility for her/his learning.*
- *Involvement and participation are necessary for learning.*
- *The relationship between learners is more equal, promoting growth, development.*
- *The teacher becomes a facilitator and resource person.*
- *The learner experiences confluence in her/his education.*
- *The learner sees himself/herself differently as a result of the learning experience.*

Student-centered learning – learning & teaching, knowledge & understanding



Learning Pyramid



Source: National Training Laboratories, Bethel, Maine

Tuning vs traditional programme design: difference in approaches

Traditional:

- Teacher in the centre of the learning activity;
- Content based programme; individual teacher decides on content and aims of the material;
- Passive material presentation methods dominate teaching;
- Passive role of the student;

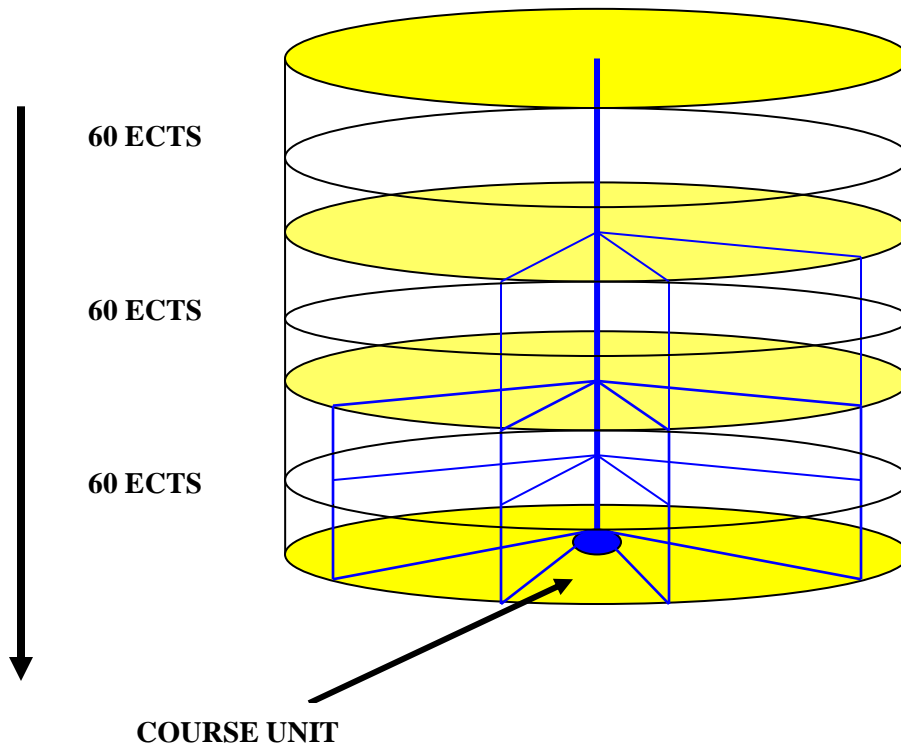
Tuning:

- Student in the centre of learning activity;
- Study programme oriented to result (learning outcomes) expressed through competences;
- “Reverse” (top-down) approach;
- Active role of the student.

From Project to Process

Tuning model

FIRST CYCLE PROGRAMME



Top-down

Degree programme according to the Tuning methodology:

- Programme based on profile, sets of competences to be obtained, desired learning outcomes to be achieved, ECTS credits to be awarded.
- Programme design is team work, based on consultation, discussion, cooperation.
- Learning outcomes / competences to be developed are the basis for credit allocation.
- Learning, teaching and assessment approaches respect credit allocation: feasibility is key factor.

Curricula development

Student centered learning

- Tuning methodology: the key knowledge and skills that a student needs to achieve during the learning process determine the content of the study programme.
- Requirements of the discipline, needs of society (academic and employers). University perspective.
- Every programme is unique although should be created and evaluated in the national and international context.
- Student-centred degree programmes must be designed in such a way that learners will develop the particular mix of competences considered useful and necessary for the **academic, professional and/or vocational area** (CoRe).
- The transparency of the learning process – the student must know beforehand what each programme is about and what the results will be.

Social and economic reality

(Calohee)

- „High level of unemployment.
- Vacancies /job openings: work experience required.
- Highly flexible labour market: jobs for life exceptional.
- Individual tolerance and self-confidence under pressure.
- Social cohesion of societies challenged.
- Mismatch capacities and needs“.

Curricula development: Challenges

(Calohee)

- What should be learned?
- Why should it be learned?
- How should it be learned?
- The role of the teacher?

Key players: graduates, academic staff,
employers.

The design of study programme

Tuning model

- Meeting the basic conditions (for all study programmes):
 - Has the social need for the programme on a regional/national/European/international level been identified? Has this been done on the basis of a consultation of stakeholders: employers, professionals and professional bodies?
 - Is the programme of sufficient interest from the academic point of view? Have common reference points been identified?
 - Are the necessary resources for the programme available inside or, if required, outside the (partner) institution(s) concerned?
- Definition of a degree profile.
- Description of the objectives of the programme as well as the learning outcomes (in terms of knowledge, understanding, skills and abilities) that have to be met.
- Identification of the generic and subject-related competences which should be obtained in the programme.
- Translation into the curriculum: content (topics to be covered) and structure (modules and credits)
- Translation into educational units and activities to achieve the defined learning outcomes.
- Deciding the approaches to teaching and learning (types of methods, techniques and formats), as well as the methods of assessment (when required, the development of teaching material)
- Development of an evaluation system intended to enhance its quality constantly.

The design of study programme

Example - Ten steps for designing new programmes

(ClioHnet)

- 1. Is there a need? Determine, consulting stakeholders, whether there is really a need for the proposed course of study.
- 2. Define the profile and the key competences. Find out what competences are actually useful for employment, personal culture and citizenship.
- 3. Define the learning outcomes indicating the most important competences.
- 4. Decide whether to 'modularise' (course units can be of a random number of ECTS credits, or else of a set number, e.g. 5, hence "modularised").
- 5. Define the learning outcomes and the key competences in each module or course unit.
- 6. See how those competences can best be formed and assessed, using a variety of approaches to learning, teaching and assessment.
- 7. Check that all the key generic and subject specific competences have been taken into account.
- 8. Describe the programme and the course units, indicating the learning outcomes in terms of competences.
- 9. Check for balance.
- 10. Implement, monitor and improve.

<http://www.cliohworld.net/docs/pocket.pdf>

The design of study programme

Study cycles/ Qualification frameworks

- As part of the Bologna Process, a group of experts, the so-called Joint Quality Initiative, has developed sets of general descriptors for each cycle, which are called the **Dublin descriptors**.
- Bachelor degree (First cycle).
- Master degree (Second cycle).
- Doctorate degree (Third cycle).
- The Dublin Descriptors form the backbone of the Qualifications Framework for the European Higher Education Area (**QF for the EHEA**) .

Example History cycle level descriptor: First cycle

History Programme (Clio materials)

- 1. Possess general knowledge and orientation with respect to the methodologies, tools and issues of all the broad chronological divisions in which history is normally divided, from ancient to recent times.
- 2. Have specific knowledge of at least one of the above periods or of a diachronic theme.
- 3. Be aware of how historical interests, categories and problems change with time and how historiographical debate is linked to the political and cultural concerns of each epoch
- 4. Have shown his/her ability to complete and present in oral and written form – according to the statute of the discipline – a medium length piece of research which demonstrates the ability to retrieve bibliographical information and primary sources and use them to address a historiographical problem.

Example Second Cycle History Programme (ClioH)

- 1. Have specific, ample, detailed and up-to-date knowledge of at least one great chronological division of history, including different methodological approaches and historiographical orientations relating to it.
- 2. Be familiar with comparative methods – spatial, chronological and thematic – of approaching historiographical research.
- 3. Have shown the ability to plan, carry out, present in oral and written form – according to the statute of the discipline – a research-based contribution to historiographical knowledge, bearing on a significant problem.

Degree profile

CoRe project

- The Guide has been produced in the framework of the Competences in Education and Recognition Project 2 (CoRe 2), financially supported by the Lifelong Learning Programme of the European Commission. The Guide has been developed in phases by a team of Tuning experts and representatives of the ENIC- NARIC networks, in collaboration with the Dutch- Flemish Accreditation Organisation (NVAO) and a test group of Universities.
- The aim of the project was to develop:
 1. A template for the Degree profile and instructions how to complete it.
 2. Guidelines how to describe learning outcomes.
 3. A Glossary of terms to ensure consistency in the use of words.

<http://core-project.eu/documents/tuning%20g%20formulating%20degree%20pr4.pdf>

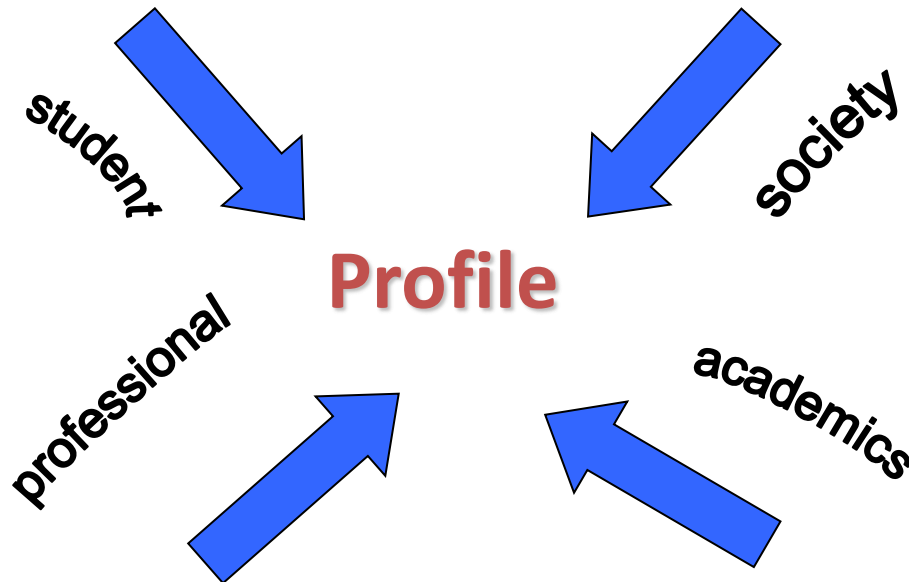
What is a degree profile?

A description of the character of a degree programme or qualification explaining:

- the main features of the programme which are based on the specific aims of the programme,
- how it fits into the academic map of disciplines or thematic studies and
- how it relates to the professional world

2. Each profile has an own identity based on specific elements developed by the institute:

- mission, strengths, particular constraints and opportunities derived from the local and regional economy



A good profile takes into account different users' perspectives & interests

Writing a degree profile (CoRe)

Degree Profile should:

- be readable in five minutes;
 - not be longer than two pages;
 - provide a coherent impression of the specific degree;
- and
- be succinct and to the point, yet provide detailed information and references where necessary.

Degree profile (CoRe)

- **O. Title-name, Level.**
- **A. Purpose of the degree.**
- **B. Focus of the degree** (Disciplinary orientation (mono, multi, inter), Focus (general/specialist), Orientation (research/applied)).
- **C. Key competences achieved on programme completion** (general, subject specific)
- **D. Employability & further education**
- **E. Education style** (Learning and Teaching Approaches, Assessment methods)
- **F. Full set of programme learning outcomes**

Course unit

- Students centred perspective – course unit is part of the programme because of the competences the students will develop and not because of the teacher who could teach such a course.
- A description form for each course unit in compliance with the description form of the study programme.
- The responsibility for the content of the course unit - teacher/team of teachers /Programme committee/?
- Course units learning outcomes must be in compliance with the learning outcomes of the study programme.
- Keep in mind the progression of learning outcomes.

Learning outcomes (LOs)

(in regard to the Tuning)

- The purpose of learning outcomes is to describe accurately the learning achievements of a student at a given point in time.
- Learning outcomes are statements formulated by academic staff of what a learner is expected to know, understand and/or be able to demonstrate after completion of learning. They can refer to a single course unit/subject or module or else to a period of studies.
- The precise number of credits allocated to learning units or entire programmes reflect the amount of time a learner normally needs to achieve the learning outcomes.
- *Learning outcomes are also often referred to as “expected learning outcomes”, “student learning outcomes”.*

http://ec.europa.eu/dgs/education_culture/repository/education/library/study/2016/eu-us-learning-outcomes_en.pdf ;

http://rektorat.unizg.hr/bopro/activities/Presentation_Wagennar%20.pdf

Why learning outcomes?

- Lies in the heart of the “student-centred learning” approach;
- Motivation for students and teachers:
 - to help students to discover their own learning styles, motivation and acquire effective study skills that will be valuable through out their lives (lifelong learning);*
 - to help students set and achieve reasonable goals exploiting all available resources for teaching and learning;*
 - to see learning more as a form of personal development, than a linear progression that the teacher achieves by rewards and sanctions.*

Tuning Educational Structures in Europe: <http://www.unideusto.org/tuning/>

The Dublin descriptors as benchmarks for LOs:

The Dublin Descriptors are the cycle descriptors (or "level descriptors") presented in 2003 and adopted in 2005 as the Qualifications Framework of the European Higher Education Area.

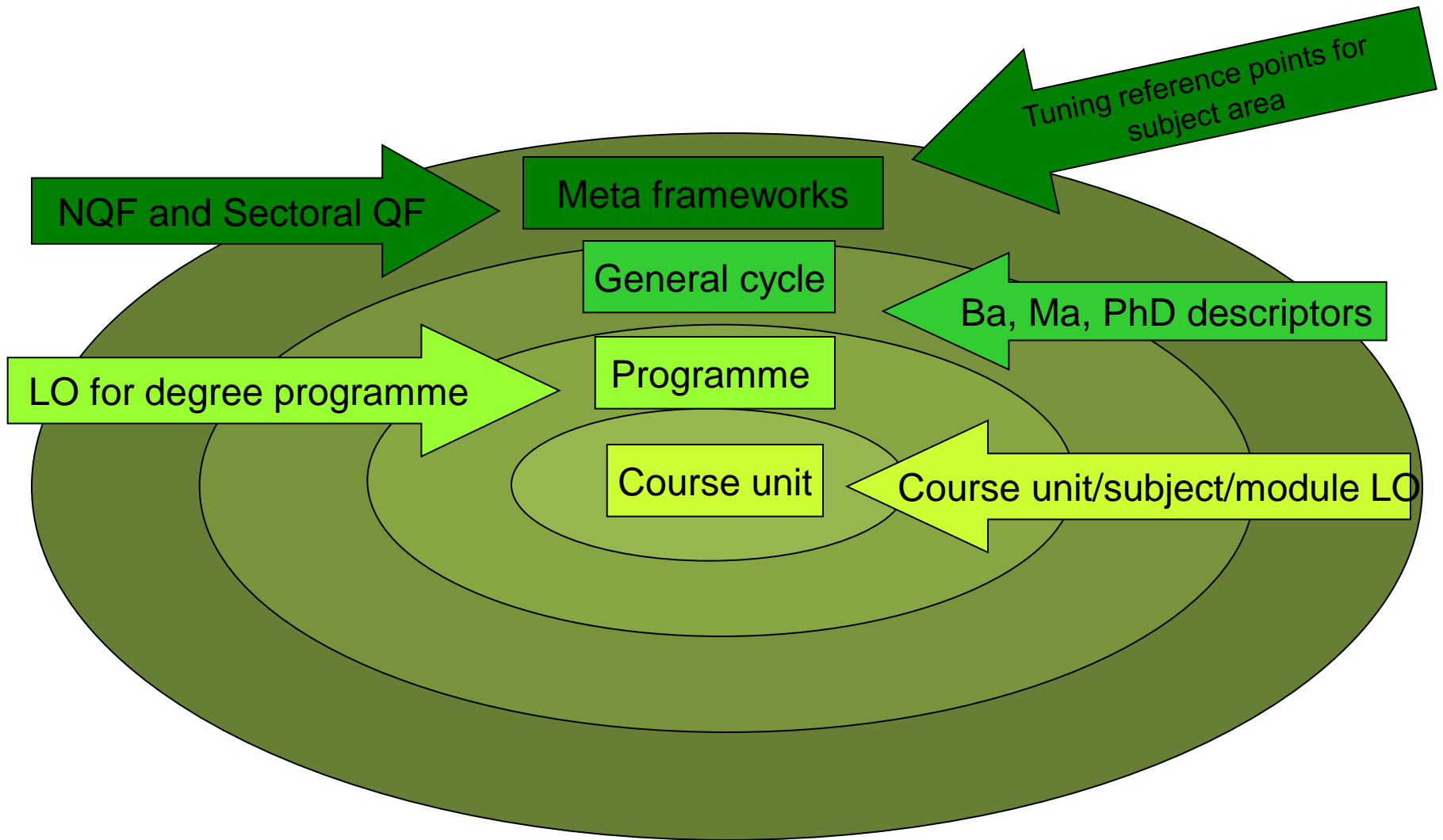
Five aspects:

- Knowledge and understanding;
- Applying knowledge and understanding;
- Making judgements;
- Communication;
- Lifelong learning skills.

http://ec.europa.eu/education/ects/users-guide/glossary_en.htm;

http://ecahe.eu/w/index.php/Framework_for_Qualifications_of_the_European_Higher_Education_Area

Levels of learning outcomes (LOs)



Learning outcomes are formulated in terms of competences

Generic:

- that apply across a variety of jobs and life contexts;
- are also known as key skills, core skills, essential skills, necessary skills, transferable skills and employability skills.

<http://www.unideusto.org/tuningeu/competences.html>;

<http://www.unideusto.org/tuningeu/competences/generic.html>

Subject-specific:

- that are explicitly formed in the particular subject-area training (e.g., Mathematics, Economy, History, Law, Geology, Chemistry, etc.);
- are also known as subject-specific skills, specific competences, technical skills.

<http://www.unideusto.org/tuningeu/competences/specific.html>

Generic competences (*Tuning list*)

- Capacity for analysis and synthesis
- Capacity for applying knowledge in practice
- Planning and time management
- Basic general knowledge in the field of study
- Grounding in basic knowledge of the profession in practice
- Oral and written communication in your native language
- Knowledge of a second language
- Elementary computing skills
- Research skills
- Capacity to learn
- Information management skills (ability to retrieve and analyse information from different sources)
- Critical and self-critical abilities
- Capacity to adapt to new situations
- Capacity for generating new ideas (creativity)
- Problem solving
- Decision-making
- Teamwork
- Interpersonal skills
- Leadership
- Ability to work in an interdisciplinary team
- Ability to communicate with non-experts (in the field)
- Appreciation of diversity and multiculturalism
- Ability to work in an international context
- Understanding of cultures and customs of other countries
- Ability to work autonomously
- Project design and management
- Initiative and entrepreneurial spirit
- Ethical commitment
- Concern for quality

Student-centred Learning – consequences for Competences and Learning Outcomes

HE learning must prepare students to 'graduate' beyond student status and to take on the responsibilities of their professional roles



A student-centred approach helps the process of transition because it requires:

increased responsibility and accountability on the part of the student

a 'reflexive' approach to the teaching and learning process on the part of both teacher and learner



Syllabi and curricula are organised not just around the facts the learner is supposed to acquire but around the processes through which learning is to be developed therefore promotes:

the concept of generic competences and a sense of competences as dynamic attributes owned by each student

learning outcomes as important thresholds in the development of these dynamic attributes, rather than checklists for factual knowledge

- LOs reflect what the faculty, the community and the stakeholders ***collectively identify*** as the essential competences required after the programme is completed;
- LOs – *generic and subject-specific* - must be formulated both on the level of the study programme and on the level of each course unit/subject/module taught within the programme!

http://rektorat.unizg.hr/bopro/activities/Presentation_Wagennar%20.pdf

In order to write LOs at the course unit level:

- identify the *purpose* of teaching in the course unit;
- identify the main topics/themes related to students' learning;
- identify the relation among the other course units and the programme in general;
- should focus on the learning that results from the course unit rather than describing activities;
- use an action verb to signal the level of learning expected;
- address the learners (should specify an action that is done by the students, rather than the faculty members);

The learning outcomes description should be brief (limited to +/-1000 , characters):

<http://www.cedefop.europa.eu/en/publications-and-resources/publications/4156>

Example: writing LOs

Unclear: The course will introduce you to the periods of European history.

Clear: The student will be able to identify and describe the features of major periods in the history of Europe.

Unclear: The student will know the theories of human development.

Clear: The students will be able to identify and describe the major theories of human development.

Unclear: The course will introduce to the important concepts and principles.

Clear: The student will be able to apply important concepts and principles of psychology to draw conclusions about populations from samples.

Unclear: The student will appreciate music from other cultures.

Clear: The students will be able to identify the characteristics of music from other cultures.

Examples of action verbs associated with each level of the Revised Bloom's Taxonomy:

Remember	Understand	Apply	Analyze	Evaluate	Create
Choose	Classify	Choose	Categorize	Appraise	Combine
Describe	Defend	Dramatize	Classify	Judge	Compose
Define	Demonstrate	Explain	Compare	Criticize	Construct
Label	Distinguish	Generalize	Differentiate	Defend	Design
List	Explain	Judge	Distinguish	Compare	Develop
Locate	Express	Organize	Identify	Assess	Formulate
Match	Extend	Paint	Infer	Conclude	Hypothesize
Memorize	Give Examples	Prepare	Point out	Contrast	Invent
Name	Illustrate	Produce	Select	Critique	Make
Omit	Indicate	Select	Subdivide	Determine	Originate
Recite	Interrelate	Show	Survey	Grade	Organize
Select	Interpret	Sketch	Arrange	Justify	Plan
State	Infer	Solve	Breakdown	Measure	Produce
Count	Match	Use	Combine	Rank	Role Play
Draw	Paraphrase	Add	Detect	Rate	Drive
Outline	Represent	Calculate	Diagram	Support	Devise
Point	Restate	Change	Discriminate	Test	Generate
Quote	Rewrite	Classify	Illustrate		Integrate
Recall	Select	Complete	Outline		Prescribe
Recognize	Show	Compute	Point out		Propose
Repeat	Summarize	Discover	Separate		Reconstruct
Reproduce	Tell	Divide			Revise
	Translate	Examine			Rewrite
	Associate	Graph			Transform
	Compute	Interpolate			
	Convert	Manipulate			
	Discuss	Modify			
	Estimate	Operate			
	Extrapolate	Subtract			
	Generalize				
	Predict				

Constructive alignment

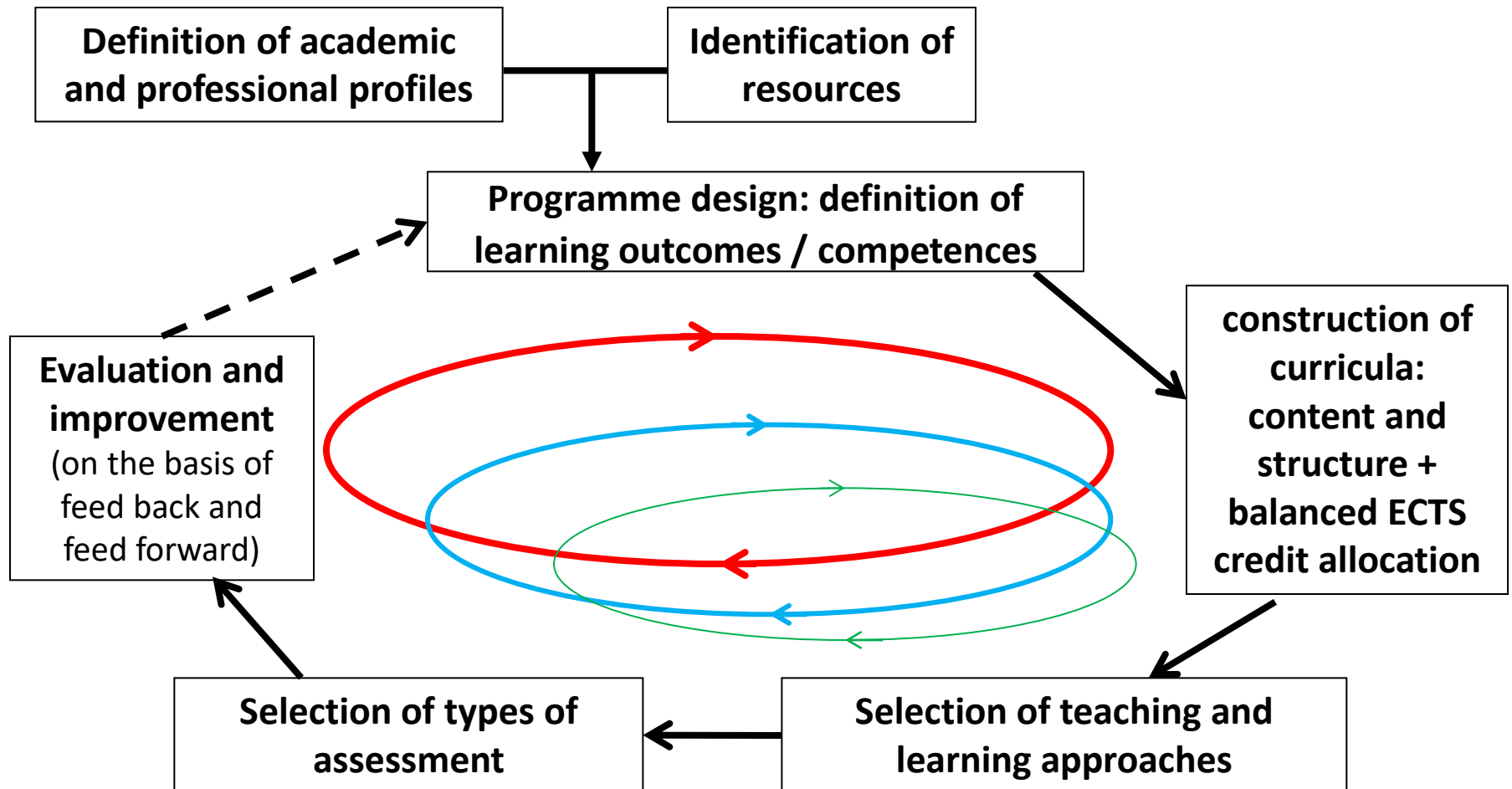
- Constructive alignment is the deliberate linking within curricula of aims, learning outcomes, learning and teaching activities and assessment.
- Learning outcomes state what is to be achieved in fulfilment of the aims.
- Learning activities should be organised so that students will be likely to achieve those outcomes.
- Assessment must be designed such that students are able to demonstrate that they have met the learning outcomes.
- Constructive alignment is just a fancy name for “joining up the dots”.

(K. Morss and R. Murray, Teaching at University: A Guide For Postgraduates And Researchers, Sage Study Skills Series, 2005)

Management of a study programme/course unit

- Division of the programme (course units, specializations, sequence, etc.).
- Responsibilities inside programme (course units, programme committee, etc.).
- Information for the students (webpage, virtual study platform, timetables, course description, etc.).
- Feedback.
- Quality assurance strategy.
- Representation of students.

The Tuning dynamic quality development circle



Strength and spin off of the student-orientated studies

- Flexibility, increased choice for the students interdisciplinary
- Students' involvement.
- The studies are based on competences. Development of generic competences.
- Clear progression of LO's and competencies.
- Reasonable and even location of assessments during the study process (in terms of semester, study year, study programme).
- Clear vision of a course unit in the general framework of the programme.
- Possibility to apply different learning, teaching and assessment methods more rationally. Do we keep promises we gave students?
- Possibility to plan and use time by students and by teachers more rationally.
- During the process of transformation – the increase of “teachers” collaboration, development of holistic attitude to the programme.
- Close collaboration with social partners.
- Possibility of individual study portfolio for the students.

Challenges

- To get teachers involved into changes.
- To encourage students to feel responsible for their studies. To get involved not only into the study planning but mostly into the studying process itself.
- To create a collaborative atmosphere.
- To develop teaching competences for the teachers and learning competences for the learners.
- To create study management and quality assurance system.
- To get appropriate feedback from the students and teachers and to use it meaningfully.
- Danger of shifting attention from specifying aims to measuring outcomes (Stefan Colini).
- To feel the difference from properly followed procedures and real teaching quality.
- “Good teaching can be judged but not measured” (Stefan Colini).