Tuning
CALOHEE

Workshop 3:
EASPA - Third Global Conference of Professional Accreditation in cooperation with ASPA (American Network for the Specialized and Professional Accreditation)

Measuring and Comparing Achievements of Learning Outcomes in Higher Education in Europe (CALOHEE)

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Outline

1. TUNING role and experience
2. Why CALOHEE?
3. Challenges
4. Conditions for success
5. Partnership
6. Structure: A project in three stages
7. Design
8. Intended outcomes

1. Tuning

Mission of Tuning:
Contributing significantly to the Modernization agenda in Higher Education

Main drivers:

- **Realizing a paradigm shift: from expert-driven teaching and learning to student-centered learning (input to output)**
- **Basing curricula on programme and module/unit learning outcomes**
- **Preparing graduates for employability and citizenship (developing competency) on the basis of a well defined field of study**

Main contributions:

- **Sophisticated methodology to reform Higher Education degree programmes**
- **Frameworks or benchmarks of internationally agreed reference points for sectors and subject areas**

The Tuning Contribution

Tuning CALOHEE

A selection of publications

2. Why CALOHEE?

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?

Main reason:

- To obtain / provide reliable information about achievements of learning in (transnational) comparative perspective at
  - ✓ Individual level
  - ✓ Programme level
  - ✓ Institutional level
  - ✓ National level
  - ✓ International level

  to allow for degree programme enhancement focusing on the domain of knowledge taking into account preparation for employment and active citizenship. Offering main stakeholders reliable information for making informed choices.

Project aims

- Develop a **multi-dimensional instrument to measure and compare levels of learning** doing justice to the different missions and profiles of HE institutions
- Develop **transnational conceptual frameworks and assessment frameworks** for five academic domains and five related disciplines (Civil Engineering, Nursing, History, Education and Physics)
- Develop **test blue prints, work plans for creation and implementation of assessments** plus white paper explaining costs/benefits of various designs for transnational comparative assessment

3. Challenges

- Covering all five main academic sectors: Health Care, Social Sciences, Natural Sciences, Engineering and Humanities
- Involvement of Higher Education institutions (management level) ; academics (degree programme level; students (subject area level)
- 80 to 90 % coverage of testing group (students)
- Reliable assessment approach: intelligent methodology covering knowledge, understanding, skills (subject related and generic/general)
- Cost-effective assessment model
- Applying assessment grids taking profiling and missions of institutions and degree programmes into account
- Offering added value to students, academics and their higher educational institutions: certificates for students, content and management information for academics and university leaders

4. Conditions for success

- Consistent Higher Education cultural environment (building on 30 years of EU Erasmus Programmes + 15 years of Bologna Process)
- Full commitment of Higher Education institutions and in particular their academics
- Full involvement of students
- Support from key international and national organizations: European networks / associations / organizations of universities
- Building on proven experience (15 years of TUNING worldwide)
- High level expertise: disciplinary level and testing modeling (ETS)
- (Technical) support of re-known experts in the field of transnational assessment
- Aligning with comparable national initiatives: Germany, USA, Australia

5. Partnership

Feasibility study is supported and co-financed by the European Commission in the framework of ERASMUS+ Key Action 3 Forward Looking Cooperation Projects

Success requires a well-defined partnership:

- ✓ 75 universities ; 15 per domain / subject area covering 14-15 countries each
- ✓ European Student Union (ESU)
- ✓ European Association of Institutions in Higher Education (EURASHE)
- ✓ European Consortium for Accreditation in Higher Education (ECA)
- ✓ European Network for Accreditation of Engineering Education (ENAEE)
- ✓ University networks: Coimbra, Santander, UNICA, Utrecht, Compostela

Other members in the advisory board: European University Association (EUA), the European Association for Quality Assurance in Higher Education (ENQA), European Association for International Education (EAIE), U-Multirank, Academic Cooperation Association (ACA) and ENIC-NARIC

The project is run by a Management Board and a Coordinating Team, supported by **Educational Testing Service (ETS)**, Princeton (USA)

6. Structure: three phases

Phases 1+2 clearly to be distinguished from phase 3

First phase – Update the frameworks of reference points

- ✓ Development of 5 refined conceptual frameworks of reference points for first (bachelor) and second cycle (master) at sectoral and subject area / disciplinary level (based on Tuning model): cycle descriptors / typical occupations / overview of TLA-approaches

Second phase - Produce the assessment frameworks

- ✓ Development of an assessment framework per domain/subject area consisting of:
  - ➢ Clear set of assessment criteria based on the multi-dimensional approach doing justice to different types of institutions and profiles;
  - ➢ Detailed test blue print for each of the assessments and
  - ➢ Detailed work plan for the creation and implementation of the assessments. Education, History, Nursing and Physics for the final stage of the first cycle (bachelor); Engineering either end first cycle or end second cycle (master).
- ✓ Preparation of White paper which will lay out the costs/benefits for various assessment designs for making evidence based decisions regarding next steps. Involvement of Educational Testing Service (ETS)

Third phase – Design the multi-dimensional tests + Testing (next phase project)

- ✓ Development of multi-dimensional tests based on agreed dimensions and parameters
- ✓ Assessment of students of 5 subject areas in 5 x 75 higher education institutions

7. Design

Building on work established and lessons learned:

- Regional approach: initial focus on Europe / EHEA only
- Trans(national) and Sectoral Qualifications frameworks /TUNING model for Conceptual frameworks /Available experience regarding comparative (trans)national assessments
- Integrated approach of subject specific and generic competence development (general competences tested in relation to disciplinary ones)
- Multi-dimensional approach to do justice to different missions and profiles of Higher Education institutions and degree programs (research based / applied based) based on *shared* body of knowledge and skills
- Use of dimensions + parameters – all related to subject area: Parameters: 1) theoretical knowledge and skills; 2) application of knowledge and skills; 3) preparation for employability and 4) active citizenship ; Dimensions differ per sector
- Five subject areas / disciplines representing the five main academic sectors
- The **assessments / tests** will take place at the **final stage of the first cycle / bachelor**

Progression routing: Sectoral conceptual framework – Subject area based conceptual framework – Detailed Assessment framework – Actual multidimensional test – Testing of students

7. Design

Building on work established ap

1. WHY Europe only ?

- Regional approach: initial focus on Europ EHEA only
- Trans(national) and Sectoral Qualifications fr for Conceptual frameworks /Available experienc

2. WHY base the CALOHEE approach on Frameworks ?

- Integrated approach of subject specific a (general competences tested in relation to disciplinary ones)

3. WHY choose for an integrated approach of generic and subject specific competences ?

- Multi-dimensional a her Education institut ed on *shared* body of know
- Use of four dimensions / parameters – all related to subject area: 1) theoretical knowledge and skills; 2) application of employability and 4) active citizenship

4. WHY four parameters and why these ?

- Five subject areas / disciplines representing the five main academic sectors
- The **assessments / tests** **ycle / bachelor**

5. Why applying subject area specific dimensions ?

Progression routing: Sectoral conceptual f based conceptual framework – Detailed Assessment framework – Actual multidimensional test – Testing of students

Design (2)

1. Why Europe only?

Contextual dimensions are a reality: social-economic and cultural factors play a role in the way (higher) education is perceived and organized.

University studies have different:

Lengths: bachelor 3-5 years – master 1-3 years

Orientations: Broad range globally from liberal arts models (broad general education) to specialized education; experts driven teaching to student centered learning

The world-wide Tuning experience shows us:

Differences – larger and smaller – between subject area based conceptual frameworks / meta-profiles between continents / regions / countries in particular regarding the selection of generic competences to be developed and trained.

Therefore:
To avoid unnecessary complications possibly undermining the assessments reliability the focus is on one region only. However, application in other regions based on tailored materials is foreseen.

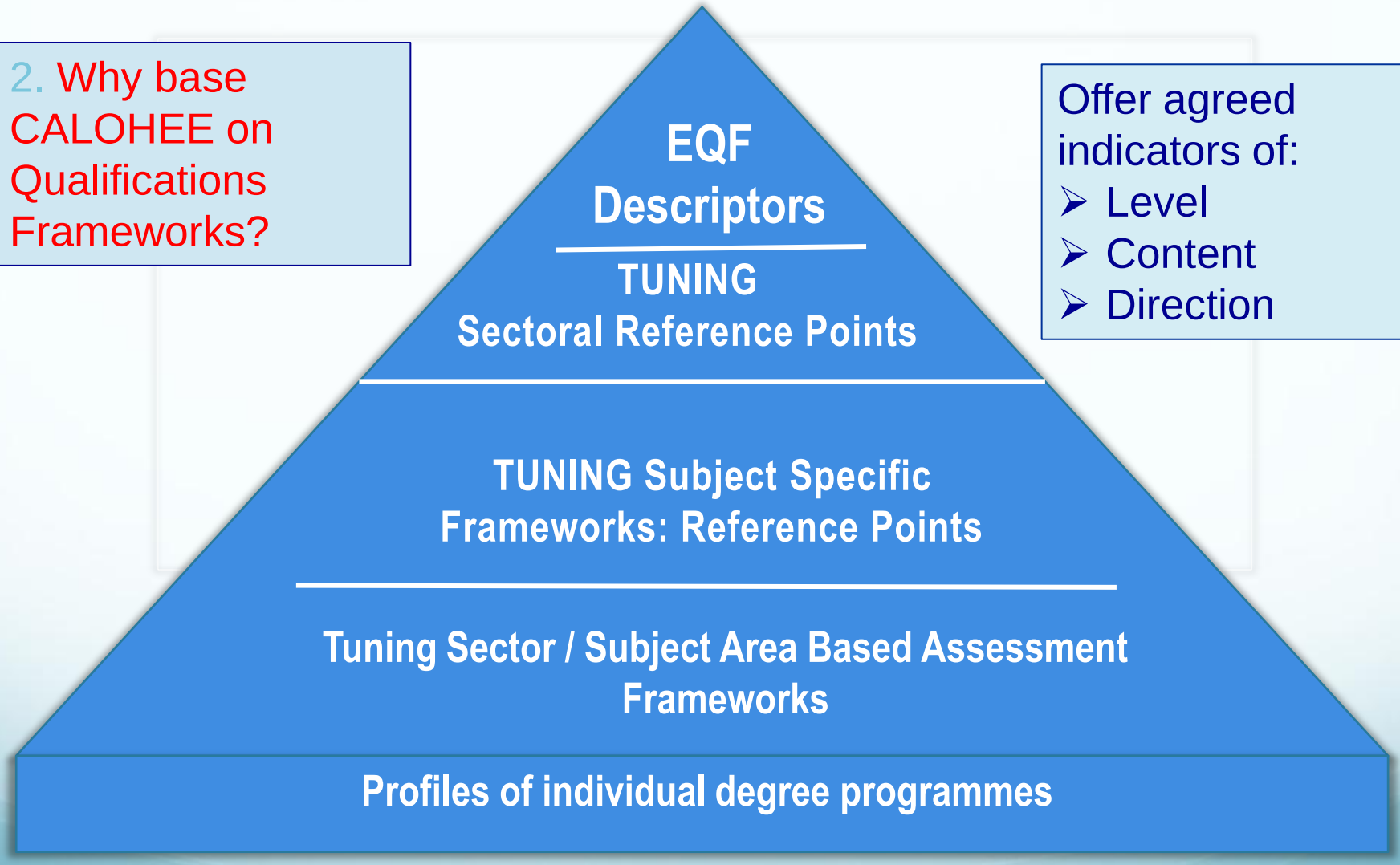
Warning: Do not compare apples and pears !

Source: Reuters

Measuring up: the Calohee scheme is limited to Europe, while the Ahelo project was intended to be a global assessment

Design (3)

2. Why base CALOHEE on Qualifications Frameworks?

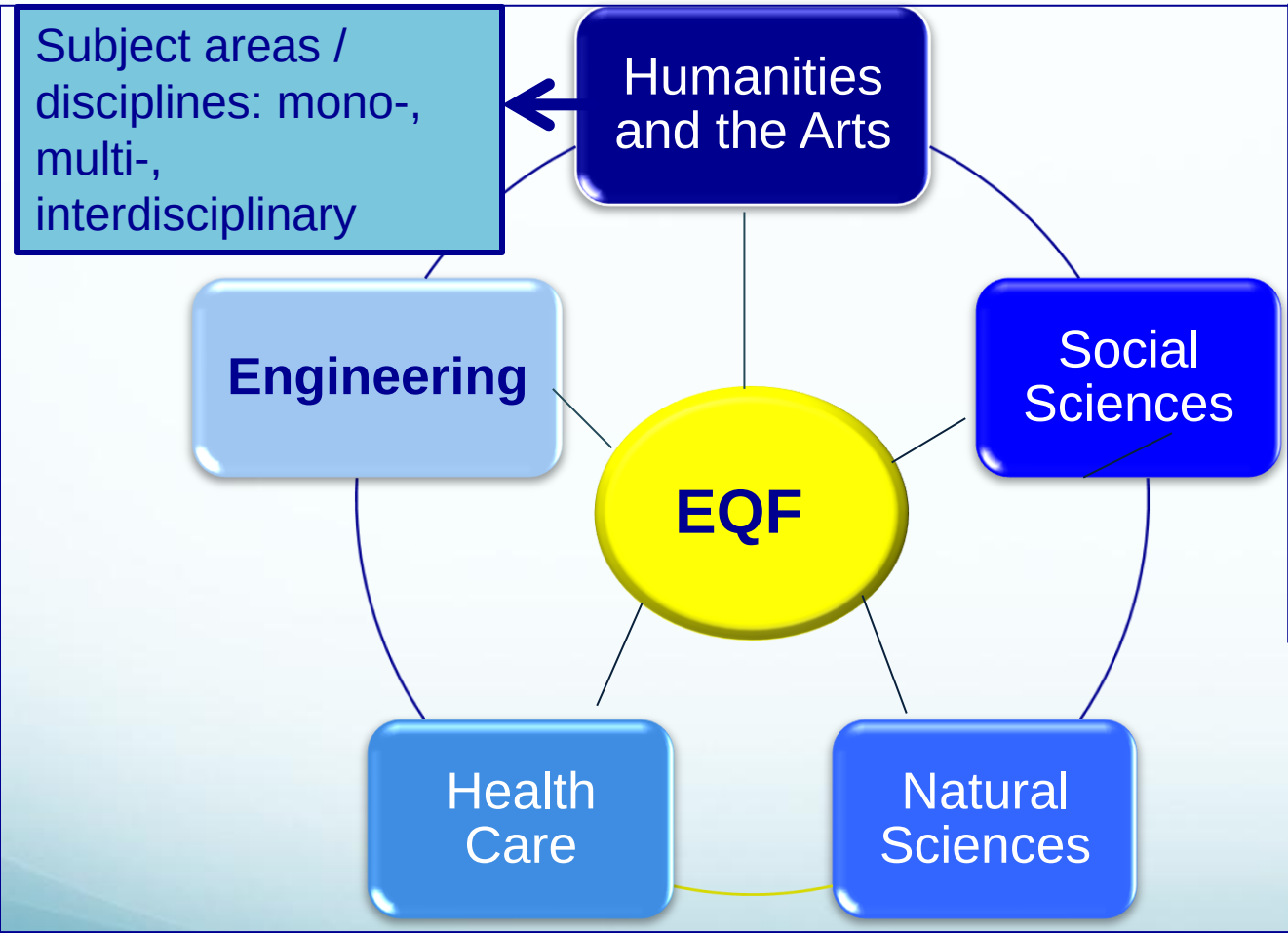


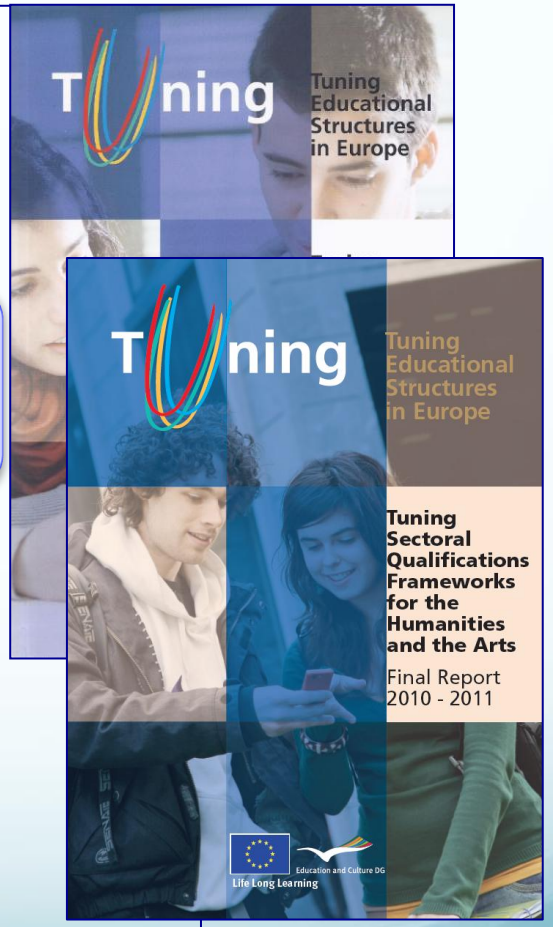
Offer agreed indicators of:

- Level
- Content
- Direction

Design (4): Role of Tuning Sectoral Qualifications Frameworks

Subject areas / disciplines: mono-, multi-, interdisciplinary





Design (5)

3. WHY choose for an integrated approach of generic and subject specific competences ?

The Tuning experience shows:

- Generic competences are developed as part of the body of knowledge and skills of a subject area (integrated approach)
- Only a limited number of generic competences can be developed / trained, which requires choices
- The core set of generic competences partly differs per sector / subject area
- Application of generic competences differs between sectors / subject areas: e.g. analyzing and synthesizing, teamwork, communication skills, entrepreneurship, etc.

Design (6)

4. WHY four parameters and why these ?

The feasibility study distinguishes parameters – categories - to be assessed: 1) theoretical knowledge and skills; 2) application of knowledge and skills; 3) preparation for employability and 4) active citizenship

Do justice to:

- missions and profiles of the Higher Education institutions: international, national, regional orientation and player or a combination of these (compare U-multi-rank approach)
- the missions of the Higher Education institutions: ranging from research intensive to applied
- degree programmes ranging from broad (basis in sector) towards very specialized (in particular at bachelor / first cycle level)
- minors and electives, differing per degree programme (and related to its profile / set of programme learning outcomes)
- developing high level knowledge and understanding and its applications of a subject besides allowing for personal development and preparing for citizenship and being employable

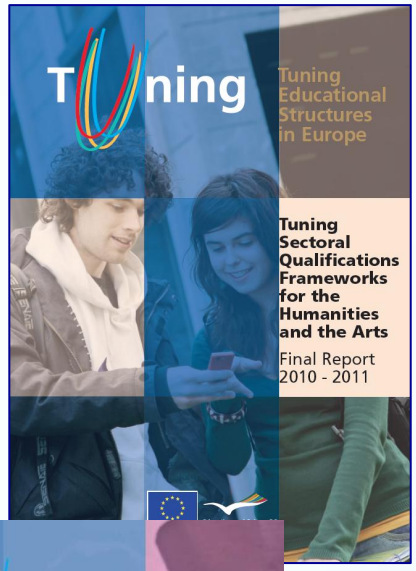
Four identified parameters should offer a fair way of comparing 1) what is / should be learned for the world of today and tomorrow; 2) achievements of comparable institutions / programmes (in accordance with approach used by Multi-rank)

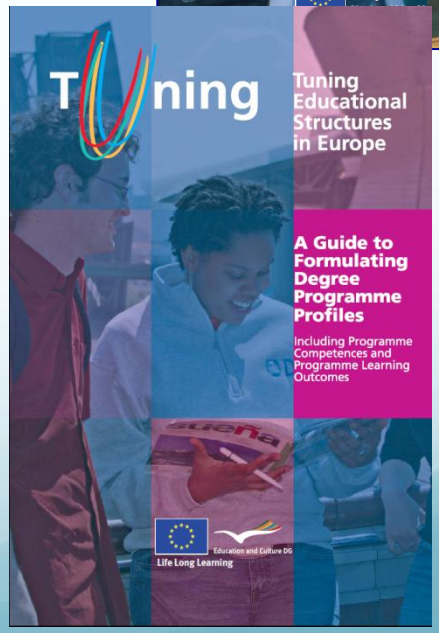
Design (7)

5. WHY applying Subject specific dimensions ?

- Does justice to the character of specific academic domain
- Structures sets of learning outcomes in a logical way
- Allows for combining QF for LLL and QF for the EHEA

Humanities Dimensions	Creative and Performing Disciplines dimensions	Engineering dimensions
The Human Being	Making, Performing, Designing, Conceptualising	Knowledge and Understanding
Cultures and Societies	Re-thinking, Considering and interpreting the Human	Engineering Analysis
Texts and Contexts	Experimenting, innovating & Researching	Engineering Design
Theories and Concepts	Theories, Histories and Cultures	Investigations
Interdisciplinarity	Technical, environmental and Contextual issues	Engineering Practice
Communication	Communication, Collaboration & Interdisciplinarity	Communication and Teamwork
Initiative and Creativity	Initiative & Enterprise	Making Judgements
Professional Development		Lifelong Learning





Design (8)

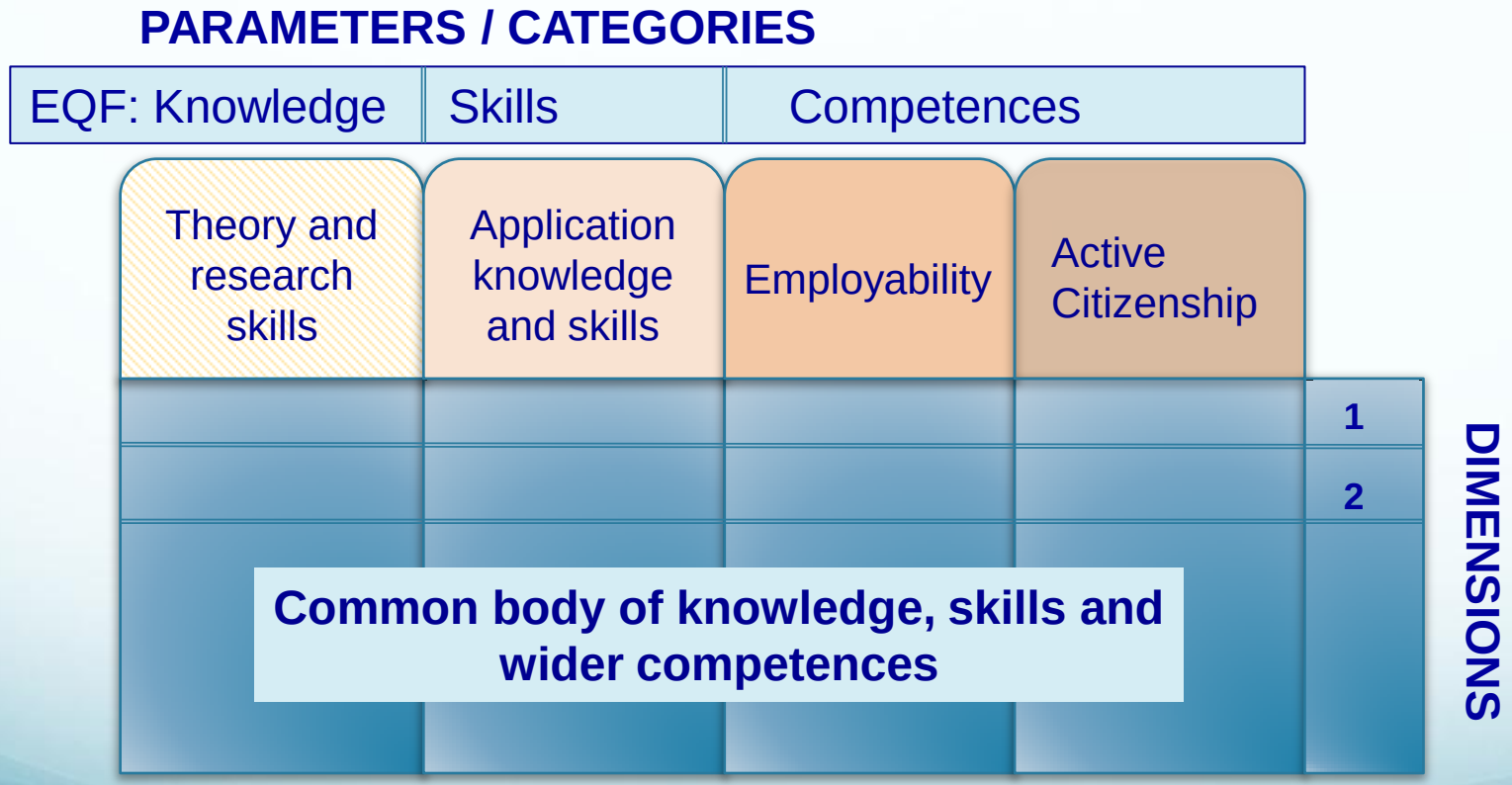
Learning outcomes of a degree programme in Humanities

QF EHEA 2nd cycle descriptors I, III-V	SQF Humanities dimensions Level 7 (MASTER)	EQF descriptor Knowledge Level 7 *highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research - critical awareness of knowledge issues in a field and at the interface between different fields*	EQF descriptor Skills Level 7 *Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields* *QF EHEA 2nd cycle descriptor:* II.can apply their knowledge and understanding....	EQF descriptor Wider Competences Level 7 *- Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches - Take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams*
Special feature degree programme I.have demonstrated knowledge and understanding	a. The Human Being			
	b. Cultures and Societies c.Texts and Contexts			
III.have the ability to integrate knowledge and handle complexity, and formulate judgements	d. Theories and Concepts e. Initiative and Creativity f. Interdisciplinarity			
IV. can communicate ...	g. Communication			
V.have the learning skills	h. Professional Development			

Design (7)

MULTI-DIMENSIAL APPROACH

Assessment frameworks based on parameters/dimensions

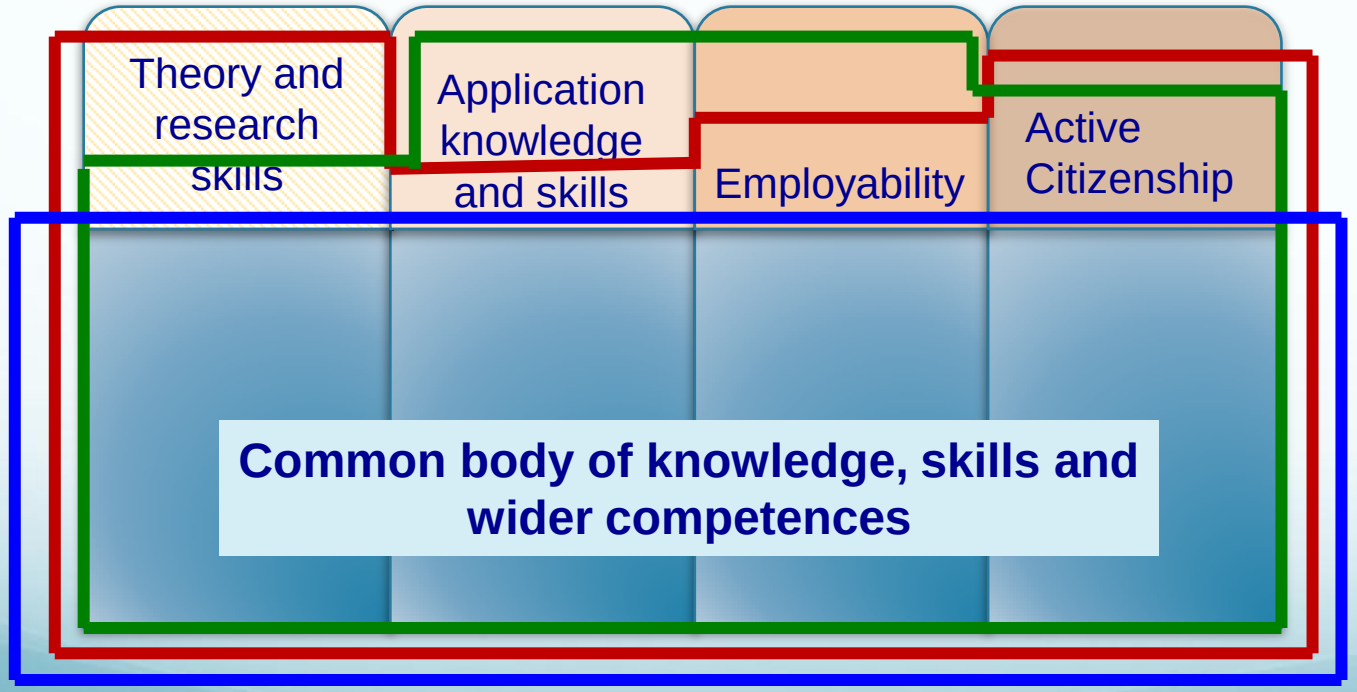


Assessment framework

Design (8)

MULTI-DIMENSIONAL APPROACH

Assessment frameworks based on four parameters + subject specific dimensions:



Assessment framework

Example of a **research university** (based on profile and mission)

Example of a **university of applied sciences** (based on profile and mission)

Shared body

7. Intended outcomes phases 1 +2

3 main expected achievements:

- Complementing European Qualifications Frameworks at domain and disciplinary level by conceptual and assessment frameworks

- Rekindle the fire of the student-centred/competences/learning outcomes approach (by focussing on quality and relevance of learning according to four dimensions)

- Frameworks which are a reliable basis/condition for setting-up fair transnational assessments

Intended outcomes phases 1+2 (2)

Detailed outcomes of first project phase (2016-2017):

- ✓ Conceptual frameworks fo
- ✓ Conceptual frameworks for: Nursing, Physics, Civil Engineering, Education and History
- ✓ Detailed as tioned Subject Areas based on multi-d sional approach
- ✓ Matrix model to distinguish between
- ✓ Detailed test blue print for each of
- ✓ lementation of the assessments
- ✓ ious assessment designs; allowing for evidence based decisions regarding actual comparative assessment phase

What is in it for the student?

What is in it for degree programs / departments / academic staff?

What is in it for the management and leadership of institutions?

What is in it for quality assurance / accreditation?

Intended outcomes phases 1+2 (3)

What do the (assessment) frameworks offer the individual student / department and academic staff ?

Insight in:

- internationally agreed reference points (benchmarks) regarding their field of studies
- detail in terms of knowledge, skills and (wider) competences to be learned according to the specific profile of the HE institution and degree programme
- what might be expected from their educational programme, to be prepared well for:
  - operating as an expert in the chosen discipline
  - working successfully in a related employability field (jobs and tasks expected to perform)
  - acting as an active citizen (taking responsibilities and civic awareness)

Intended outcomes phases 1+2 (4)

What do the (assessment) frameworks offer the management and leadership of an institution?

Insight in:

- ✓ whether the learning outcomes of its programme(s) are aligned with internationally agreed standards
- ✓ whether the learning outcomes meet the mission and profile of the institution / its programmes
- ✓ strengths and weaknesses of its programme(s) according to the four identified parameters and the agreed dimensions
- ✓ possible needs for quality enhancement of (aspects of) its programmes (in comparative perspective)
- ✓ whether its programmes are able to compete with comparable programmes in an (inter)national context

Intended outcomes phases 1+2 (5)

What do the assessment frameworks offer for quality assurance / accreditation?

At international level:

- ✓ More detailed and relevant sets of international reference points aligned with meta-qualifications frameworks: EQF for LLL / QF for EHEA, at sectoral and subject area level

At national level:

- ✓ More precise international benchmarks which allow for referencing degree programmes in (inter)national quality assurance and accreditation procedures by doing justice to their mission and profile
- ✓ Potentially a means for simplifying quality assurance and accreditation systems (‘proof is in the eating of the pudding’)

Intended outcomes phase 3 (1)

Personalised assessment results

Logo university enrolled (optional)

CERTIFICATE

Name of student
Date of birth
Home university +
enrolment identification number
Date assessment taken

Reading guide

Description of the assessment and its aim, explaining its outline and structure (four categories) and guidelines for interpretation of score cards.

Student will obtain a certificate which contains:

- his/her individual scores (xx/100)
- overall average scores all participants (xx/100)
- average scores of peer group of student (based on comparison of mission/profile) (xx/100)
- Score cards distinguishing four identified categories
- Explanation and purpose of the assessment
- Explanation of the structure of the test: four categories + comparison to peer group of student

Intended outcomes phase 3 (2)

Group results (allows for aggregation at different levels)

Logo university enrolled (optional)

Name of student

Score cards

Knowledge and skills discipline

	Cat 1	Cat 2	Cat 3
- Item 1			
- Item 2			
- Item 3			

Ability to apply disciplinary knowledge and skills in practical situations

	Cat 1	Cat 2	Cat 3
- Item 1			
- Item 2			
- Item 3			

Preparation for employability

	Cat 1	Cat 2	Cat 3
- Item 1			
- Item 2			
- Item 3			

Preparation for citizenship

	Cat 1	Cat 2	Cat 3
- Item 1			
- Item 2			
- Item 3			

Department / staff will obtain insight into:

- Performance of its individual students (xx/100)
- Performance of its cohort compared to overall average scores all participants (xx/100)
- Performance of its cohort compared to average scores of peer group of student (based on comparison of mission/profile) (xx/100)
- Score cards distinguishing four identified categories
- Identification of strengths and weaknesses of own programme and students (taking into account own profile and mission)

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