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right to education

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photo: Natascha Unkart

Output-based Education in the Bologna process

PART I

CONTENT OF THIS SESSION

ECTS

EQF and Output based education

Student centred learning

Learning Outcomes/ Competences

СОДЕРЖАНИЕ

Европейская система переноса зачетных единиц

рамка квалификаций обучения /образование на основе вывода

Студент в центре обучения

Результаты обучения/ компетенция
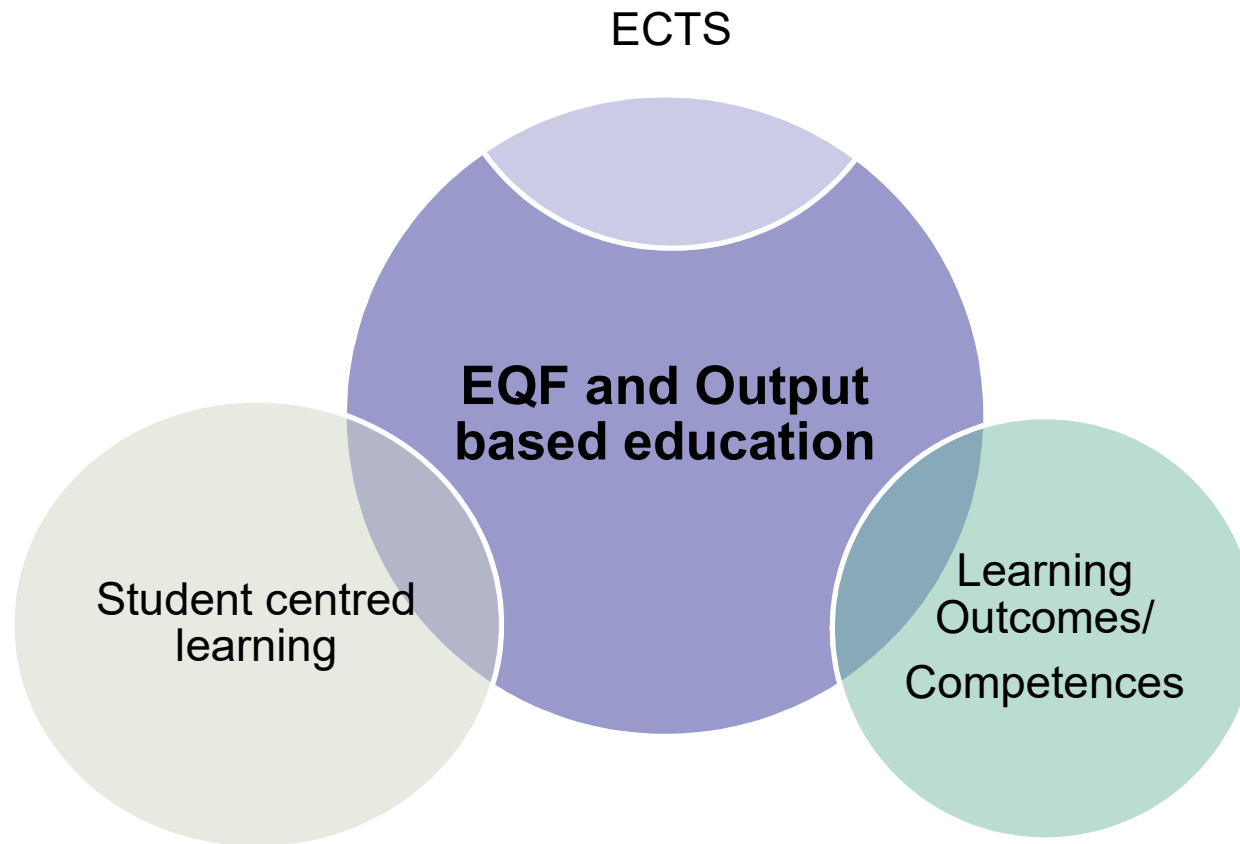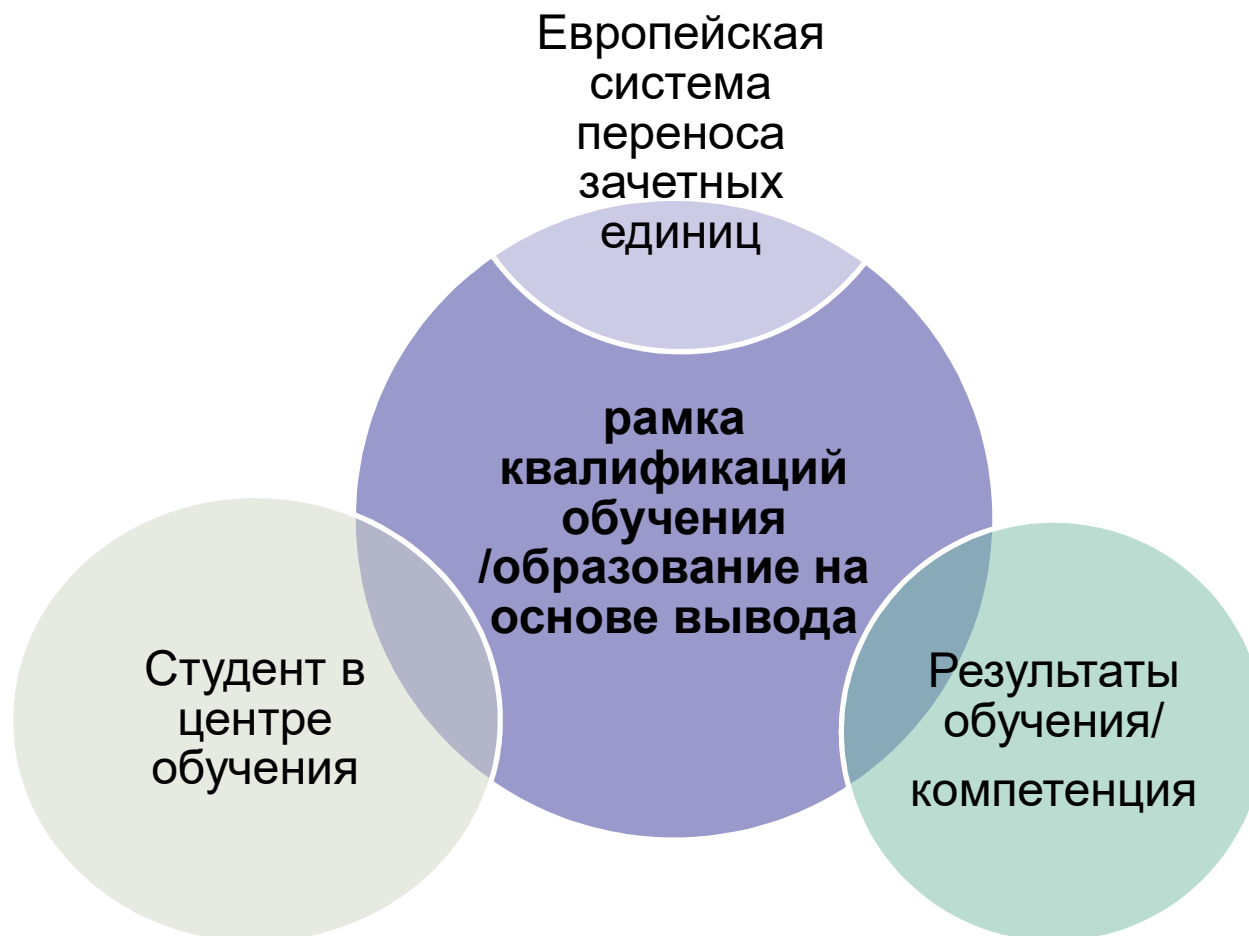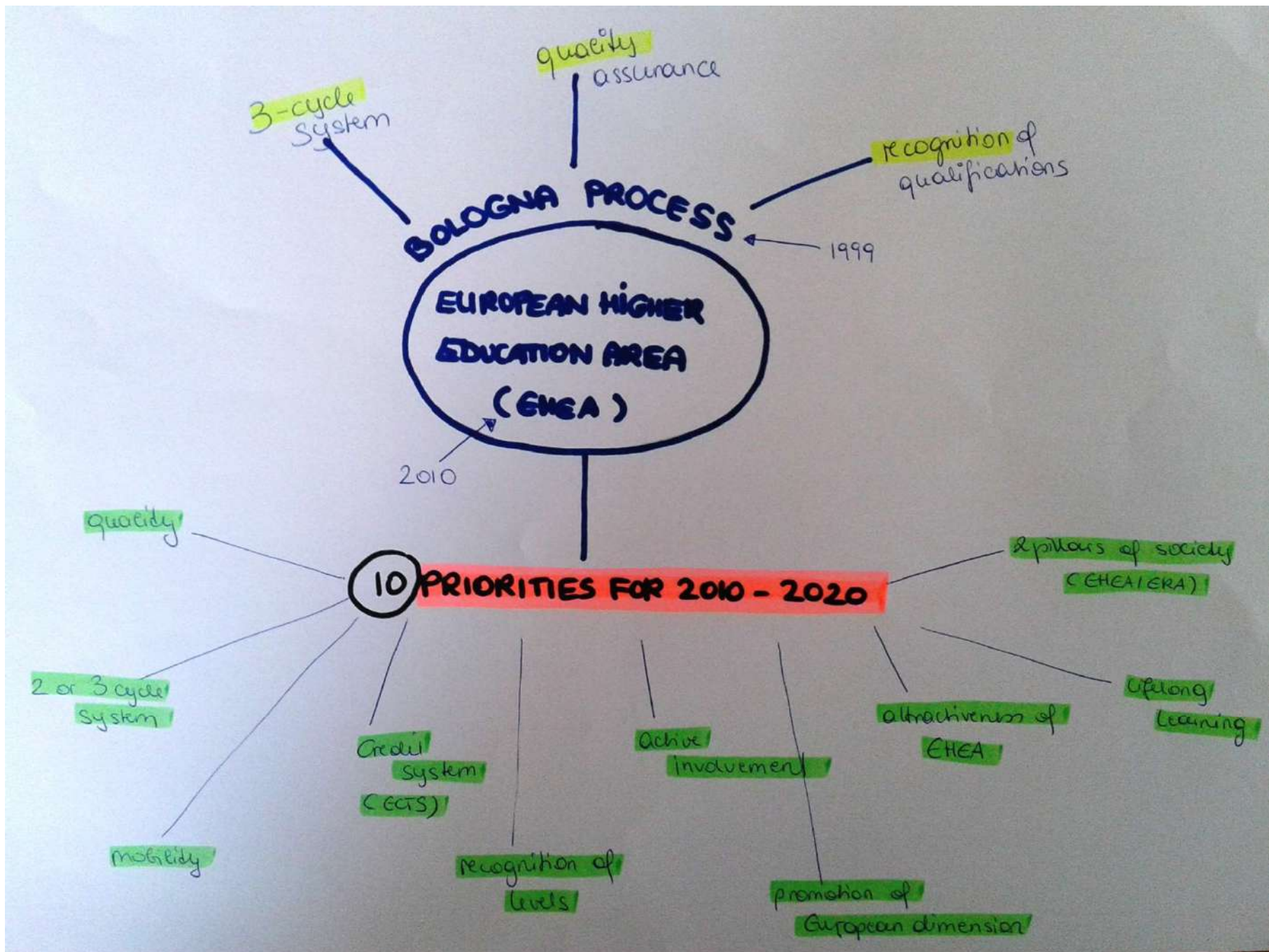
THE BIGGER PICTURE

БОЛОНСКИЙ ПРОЦЕСС

- Болонская декларация: подписанный в июне 1999 года в итальянском городе Болонья министрами.
- Болонский процесс: Процесс реализации положений Болонской Декларации в интересах создания единого Европейского пространства высшего образования:
  - В рамках Болонского процесса различаются **три цикла** высшего образования: бакалавриат, магистратура и аспирантура (Doctoral studies).
  - **Обеспечение качества**: процедуры, направленные на обеспечение соответствия результатов образования и обучения и соответствующих услуг заявленным требованиям потребителя.
  - **Признание** дипломов/документов И Придание, по результатам проведения утвержденных процедур оценки, официального статуса компетенциям/квалификациям, освоенным в процессе как формального, так и неформального обучения.

THE BIGGER PICTURE

The **Bologna Process**, launched with the Bologna Declaration of 1999, is one of the main voluntary processes at European level; it is today implemented in 47 states, which define the **European Higher Education Area (EHEA).**

THE BIGGER PICTURE

The three overarching objectives of the Bologna process : introduction of the **three cycle system** (bachelor/master/doctorate), **quality assurance** and **recognition** of qualifications and periods of study.

BIGGER PICTURE - BOLOGNA PROCESS

Detailed priorities for 2010-2020:

1. Ensuring a quality higher education system
2. Adopting a two- or three-cycle system of study (BA, MA, PhD)
3. Promoting the mobility of students and academic and administrative staff
4. Introducing a credit system (ECTS) for the assessment of study performance
5. The Recognition of levels: adopting a system of easily identifiable and comparable levels
6. The Active involvement of higher education institutions, teachers and students in the Bologna Process and student participation in the management of higher education
7. Promoting a European dimension in higher education
8. Promoting the attractiveness of the European Higher Education Area
9. Lifelong learning
10. A European higher education area and a European research area – two pillars of a society based on knowledge

About the Bologna process
http://www.ehea.info/

The EU and the Bologna Process - shared goals, shared commitments. Supporting growth and jobs - An agenda for the modernisation of Europe's higher education systems. 2012 (see: http://ec.europa.eu/education/higher-education/doc/bologna-goals_en.pdf)

INTRODUCTION - QUALIFICATION FRAMEWORKS AND DESCRIPTORS

ЕВРОПЕЙСКАЯ РАМКА КВАЛИФИКАЦИЙ ОБУЧЕНИЯ В ТЕЧЕНИЕ ВСЕЙ ЖИЗНИ

- В Европейском Союзе разработана и утверждена Европейская рамка квалификаций обучения в течение всей жизни. Европейская рамка квалификаций создана по инициативе Европейского Союза как инструмент обеспечения сопоставимости академических степеней и квалификаций в странах-членах ЕС.

- Европейская рамка квалификаций представляет собой мета-рамку, состоящую из 8 уровней, каждый из которых описан в терминах знаний, умений и компетенций (понимаемых в данном случае, как уровень ответственности, сложности и автономии), которые определяют качественное отличие квалификаций одного уровня от другого.

- Европейская рамка квалификаций позволяет проводить сравнение квалификаций между странами и является ориентиром для разработки Национальной рамки квалификаций.

EQF FOR LIFELONG LEARNING

- Acts as a **translation device**
- Makes national qualifications more readable accross Europe/Bologna signatory states
- Promotes worker´s and learner´s mobility between countries
- Aims at facilitating Lifelong Learning (LLL)

EUROPEAN QUALIFICATIONS FRAMEWORK

Agreed upon by the European institutions in 2008, the EQF is being put in practice across Europe. It encourages countries to **relate their national qualifications systems to the EQF** so that all new qualifications issued from 2012 carry a reference to an appropriate EQF level.

THE EIGHT REFERENCE LEVELS OF THE EQF

The core of the EQF concerns eight reference levels, ranging from basic (Level 1) to advanced (Level 8), describing:

- Knowledge,
- Skills and
- Competences.

DESCRIPTORS DEFINING LEVELS IN THE EQF

Level	Knowledge	Skills	Competences
Level 1	Basic general knowledge	basic skills required to carry out simple tasks	work or study under direct supervision in a structured context
Level 2	Basic factual knowledge of a field of work or study	basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	work or study under supervision with some autonomy
Level 3	Knowledge of facts, principles, processes and general concepts, in a field of work or study	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems
Level 4	Factual and theoretical knowledge in broad contexts within a field of work or study	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities

DESCRIPTORS DEFINING LEVELS IN THE EQF

Level	Knowledge	Skills	Competences
Level 5	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others
Level 6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups
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	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	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
Level 8	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields	the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve	demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of

SHIFTING FOCUS...

The EQF applies to all types of education, training and qualifications, from school education to academic, professional and vocational.

This approach shifts the focus from the traditional system which emphasises **'LEARNING INPUTS'**, such as the length of a learning experience, or type of institution, to **LEARNING OUTCOMES**.

It also encourages lifelong learning by promoting the validation of non-formal and informal learning.

QUESTION:

Do you observe a shift in focus
from teaching to learning
in your country/ in your work as
professors?

ВОПРОС:

В Вашей стране наблюдаете ли Вы перемена **от преподавания к обучению**?

AUSTRIAN NQF

Based and very much connected to the EQF, also with 8 reference levels.

Each of the 8 levels is defined by a set of descriptors indicating the learning outcomes relevant to qualifications at that level in any system of qualifications.

Each level ist described on the basis of knowledge, skills and competences, whereas the levels **6-8 in higher education** are described along the **Dublin Descriptors** of the EHEA.

Европейская рамка квалификаций высшего образования - Дублинские дескрипторы

- Устанавливает рамочные требования к результатам обучения на трех циклах высшего образования.
- Дублинские дескрипторы квалификации первого цикла предполагают, что их обладатели способны:
  - демонстрировать знания и понимание в изучаемой области, включая и элементы наиболее передовых знаний в изучаемой области, и может применять эти знания и понимание на профессиональном уровне,
  - вырабатывать аргументы и решать проблемы в области изучения,
  - осуществлять сбор и интерпретацию информации для выработки суждений с учетом социальных, этических и научных соображений;
  - сообщать информацию, идеи, проблемы и решения как специалистам, так и неспециалистам.

DUBLIN DESCRIPTORS

… provide **very general statements** of typical expectations of achievements and abilities that represent the end of a Bologna Cycle (Bachelor, Master, PhD).

General level decriptors have been developed for the first, second and third Bologna cycle.

DUBLIN DESCRIPTORS

The Dublin descriptors have been developed by an international group of experts, which has named themselves the Joint Quality Initiative (JQI).

They are known as the 'Dublin Descriptors' after the meeting in which they were agreed, in Dublin, March 2004.

The descriptors are written as Learning Outcomes.

DUBLIN DESCRIPTORS

= set of criteria

The following five sets of criteria are distinguished for each of the three levels (Bachelor, Master, PhD):

- Knowledge and understanding
- Application of knowledge and understanding
- Ability to make judgements
- Ability to communicate
- Learning skills

DUBLIN DESCRIPTORS

e.g. Application of knowledge and understanding

Qualifications that signify completion of the **1st, 2nd, 3rd cycle** are awarded to students who …

1st) can apply their knowledge and understanding in a manner that indicates a **professional approach to their work or vocation**, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study;

2nd) can apply their knowledge and understanding, and problem solving abilities in **new or unfamiliar environments** withing broader (or multidisciplinary) contexts related to their fields of study;
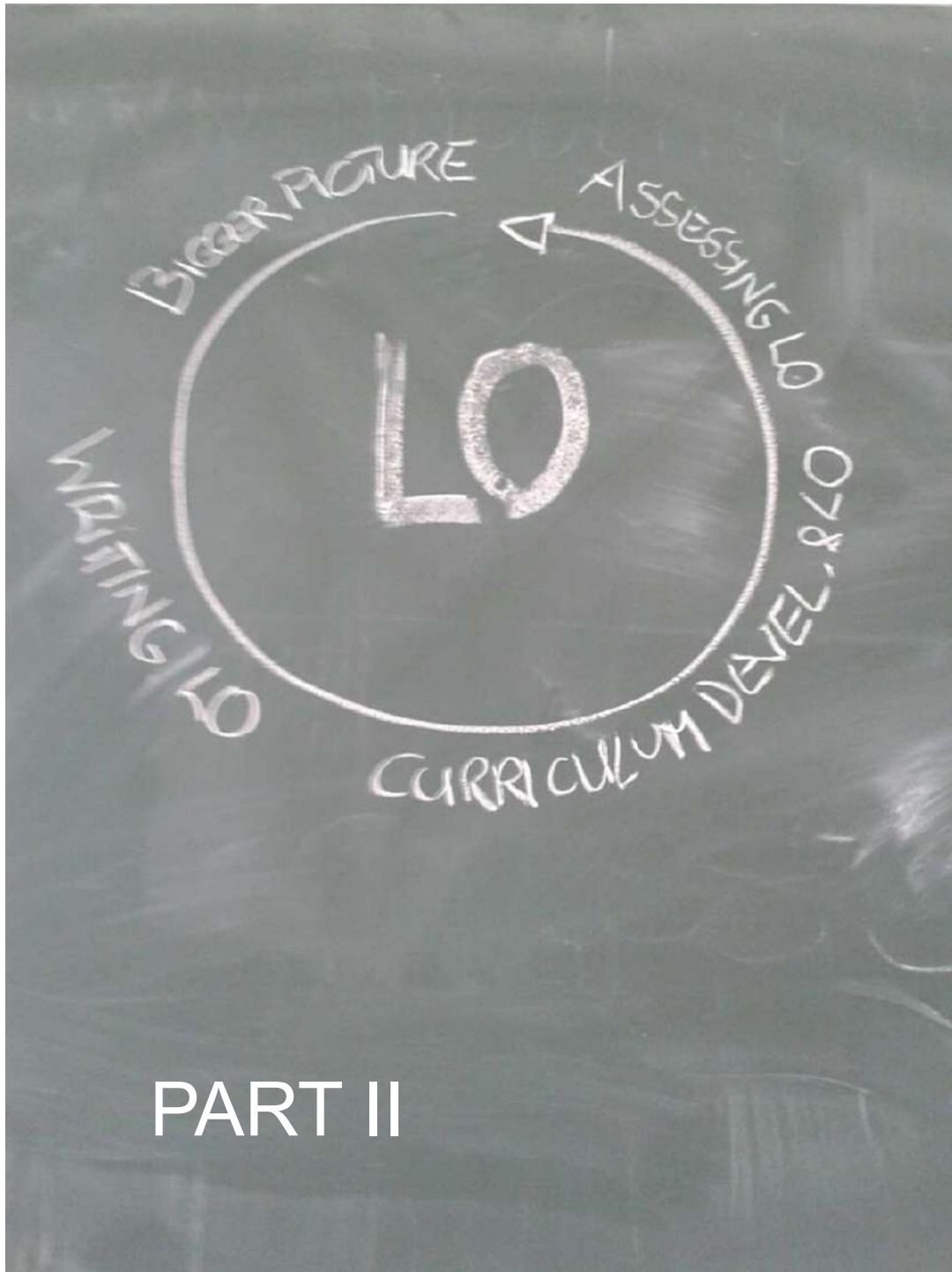
3rd) have demonstrated the **ability to conceive, design, implement and adapt a substantial process of research** with scholarly integrity.

DUBLIN DESCRIPTORS

e.g. Master: Qualifications that signify completion of the second cycle are awarded to students who:

- have demonstrated **knowledge and understanding** that is founded upon and extends and/or enhances that typically associated with Bachelor's level, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context;

- can **apply their knowledge and understanding**, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study;

- have the **ability** to integrate knowledge and handle complexity, and formulate **judgments** with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments;

- can **communicate** their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously;

- have the **learning skills** to allow them to continue to study in a manner that may be largely self-directed or autonomous.
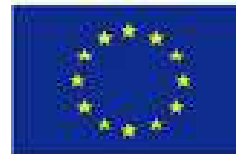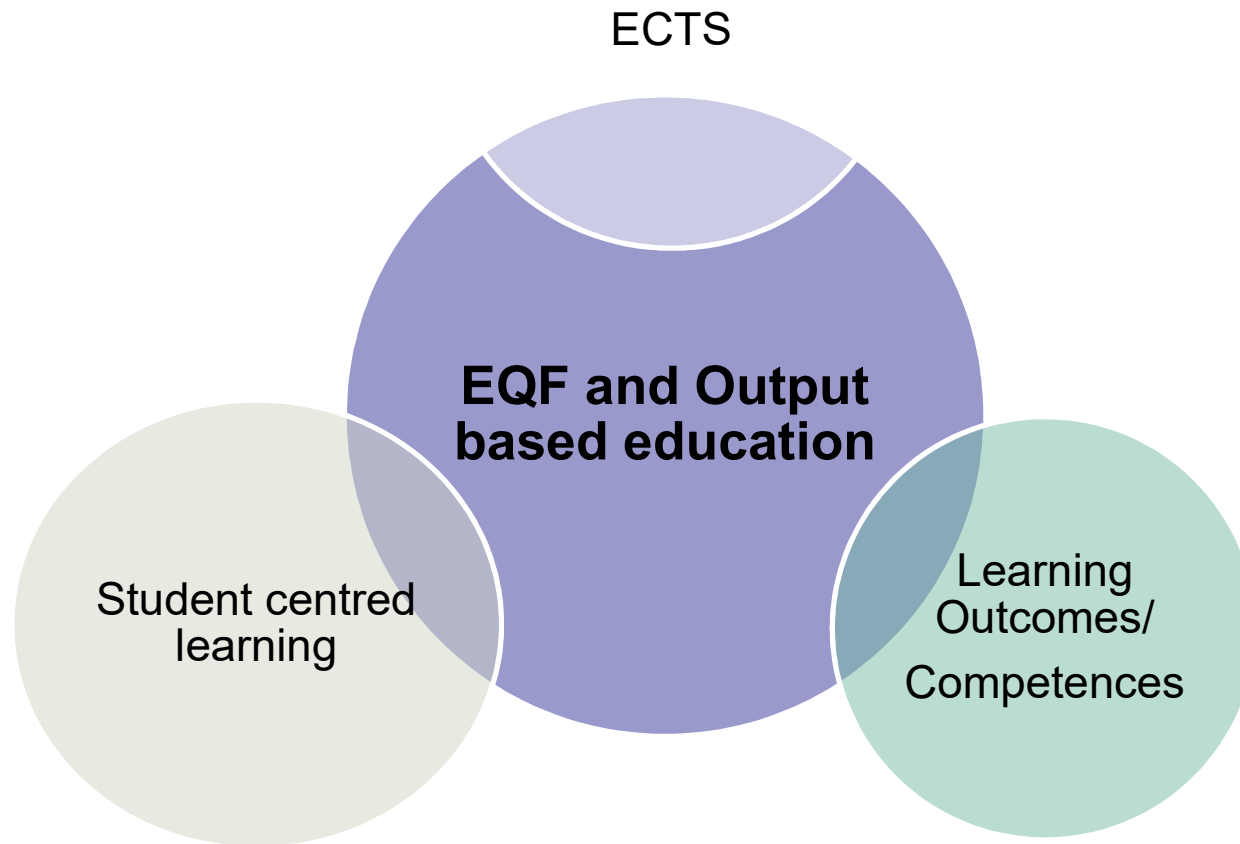
BREAK

Output-based Education in the Bologna process

PART II

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EQF and Output based education

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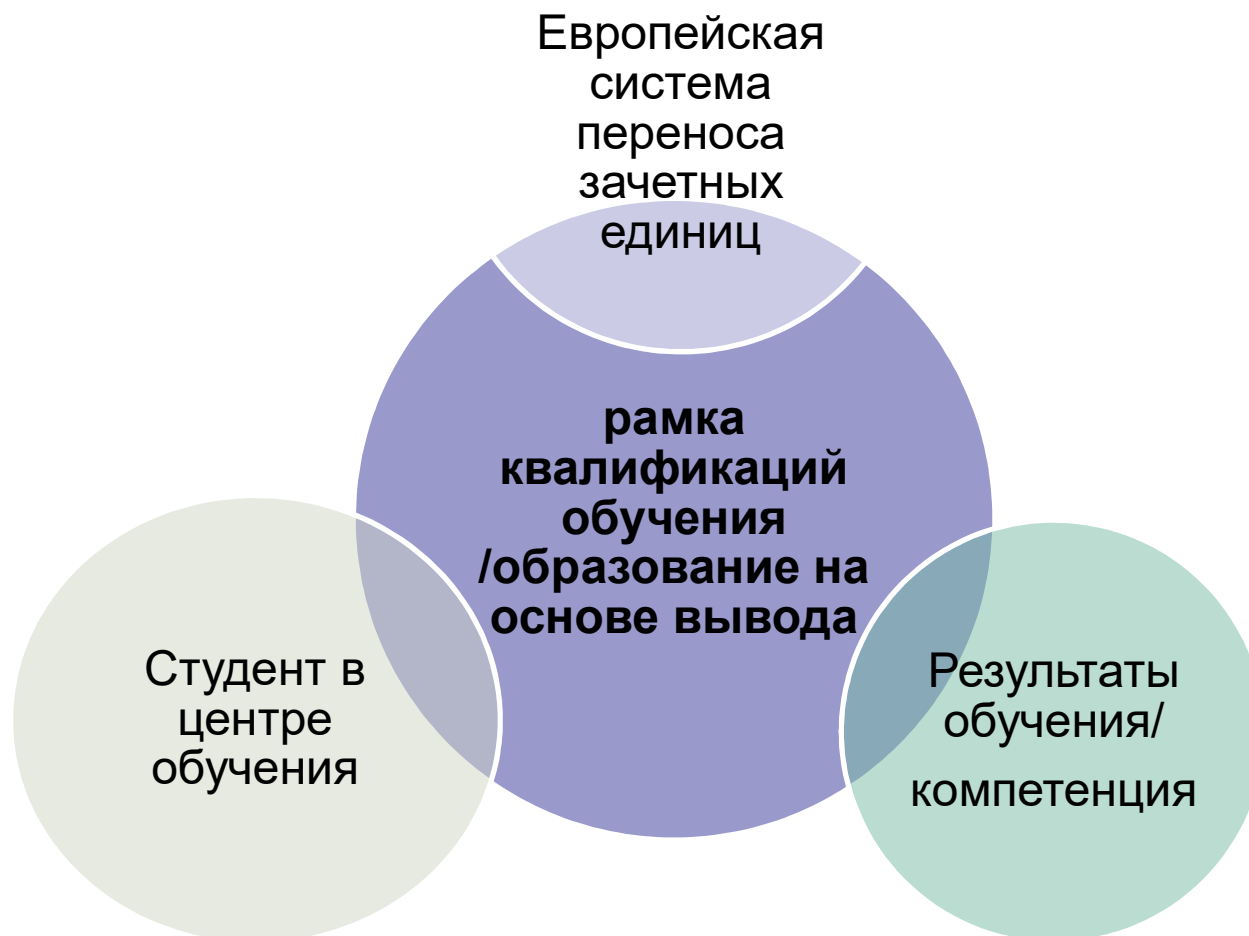
LEARNING OUTCOMES

РЕЗУЛЬТАТЫ ОБУЧЕНИЯ

- Констатация того, что обучающийся знает, понимает и умеет делать по завершении обучения.

- Результаты обучения показывают индивидуальные достижения, знания и практические умения, приобретенные и продемонстрированные после успешного завершения отдельного курса, части образовательной программы/модуля или образовательной программы в целом.

РЕЗУЛЬТАТЫ ОБУЧЕНИЯ

- Результаты обучения следует отличать от задач и целей, так как они больше связаны с достижениями студента, чем с задачами преподавателя.

- Для официальных документов по итоговым результатам обучения характерно употребление активных глаголов, выражающих знание, понимание, применение, анализ, синтез, оценивание и так далее.

LEARNING
OUTCOMES/COMPETENCE BASED
EDUCATION
= OUTPUT BASED EDUCATION
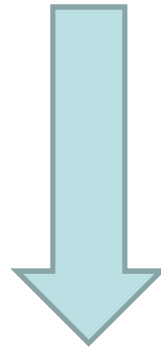
A TOOL FOR CHANGE

LEARNING OUTCOMES

The princial question asked of the student/graduate will no longer be

„what did you do to obtain the degree?"
BUT
„what can you do now that you have obtained your degree?"

(*Purser, Council of Europe, 2003*)
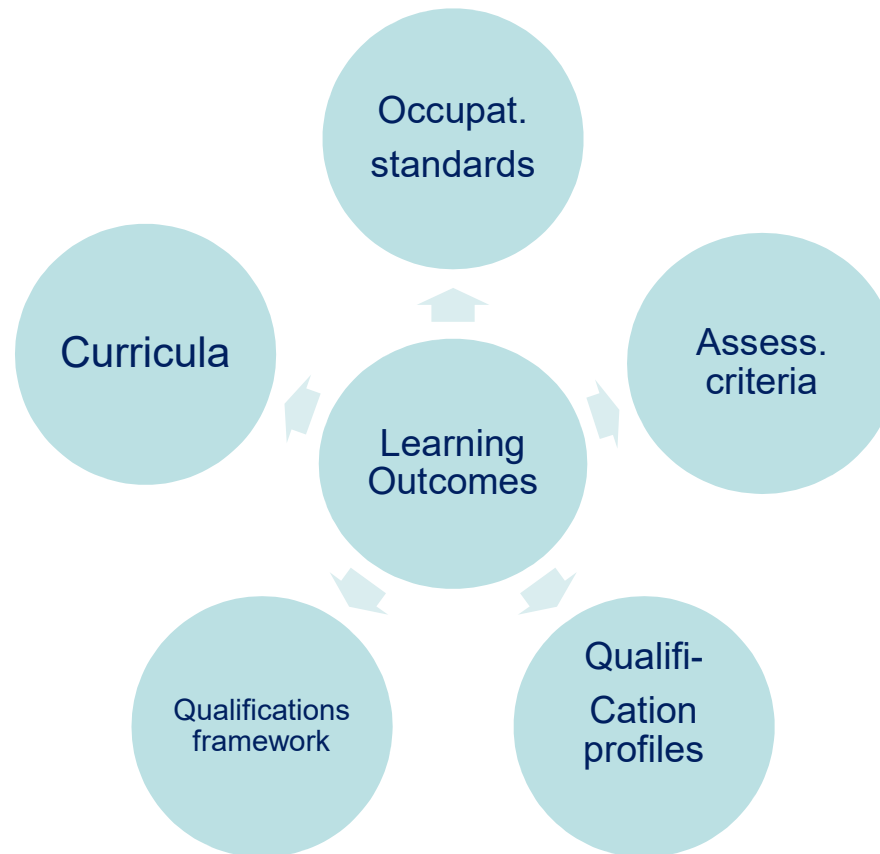
LEARNING OUTCOMES

... are a statement of what a learner is expected to **know, understand, and able to do** at the end of a learning process.
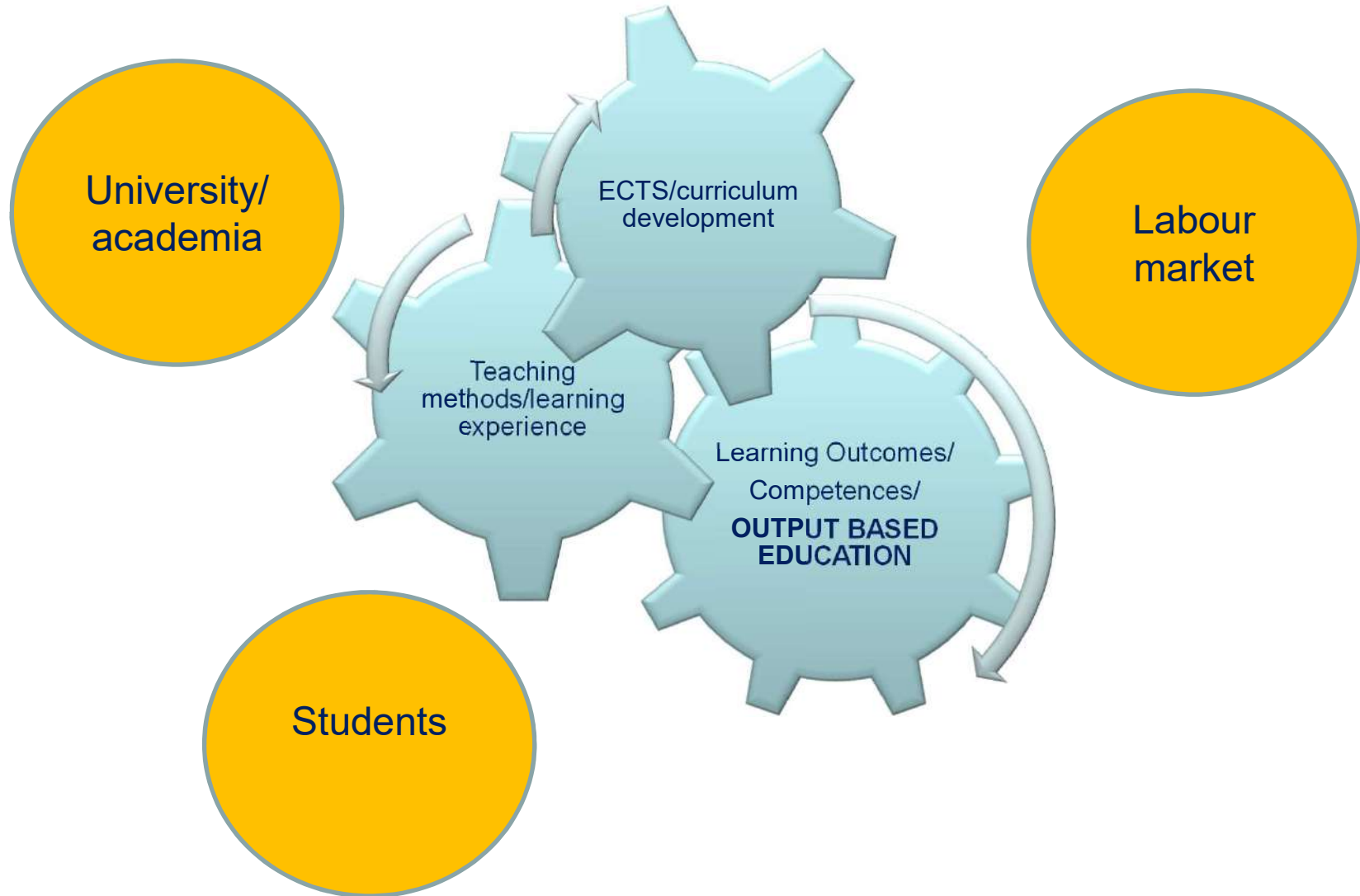
SHIFT IN PARADIGM:
from input-oriented to output-oriented

WHERE LO CAN BE FOUND

- Occupat. standards
- Assess. criteria
- Qualifi-Cation profiles
- Qualifications framework
- Curricula
- Learning Outcomes

INTERDEPENDENCIES

FROM THE DEFINITION OF LEARNING OUTCOMES WE SEE...

… an emphasis on the learner and an emphasis on the learner's ability to do something.

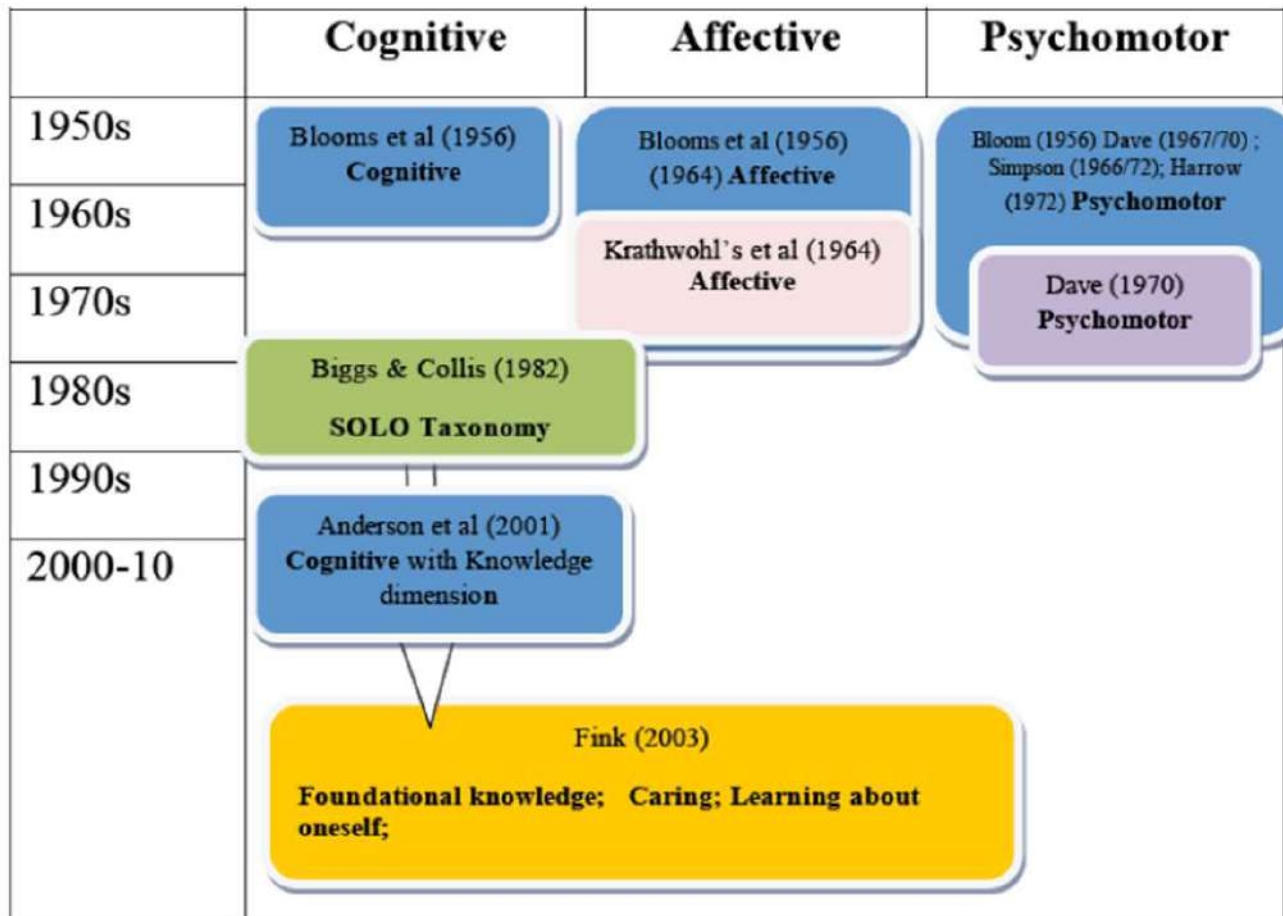| Focus on teaching:	Focus on learning:
aims and objectives and use of terms like *know, understand, be familiar with.*	what we want the student to be able to do - use of terms like *define, list, name, recall, analyse, calculate, design*, etc.

TAXONOMIES

(source: O'Neill,Geraldine; Murphy, Feargal: Assessment. Guide to Taxonomies of Learning, 2010)

Appendix 1: Overview of development of Taxonomies and their domains

|	Cognitive	Affective	Psychomotor
1950s	Blooms et al (1956) Cognitive	Blooms et al (1956) (1964) Affective	Bloom (1956) Dave (1967/70) ; Simpson (1966/72); Harrow (1972) Psychomotor
1960s			
1970s		Krathwohl's et al (1964) Affective	Dave (1970) Psychomotor
1980s	Biggs & Collis (1982) SOLO Taxonomy		
1990s			
2000-10	Anderson et al (2001) Cognitive with Knowledge dimension		
	Fink (2003) Foundational knowledge; Caring; Learning about oneself;		

BLOOM'S TAXONOMY AS AN EXAMPLE OF ORIENTATION TOWARDS OUTPUT BASED EDUCATION

- Bloom's taxonomy (1956) is a very **useful aid** to writing learning outcomes.

- Provides the structure for writing learning outcomes

- The taxonomy consists of a **hierarchy** of increasingly complex processes which we want our students to acquire.

- Bloom's Taxonomy is frequently used by teachers in writing learning outcomes as it provides a ready made structure and **list of verbs**.

Bloom (1956) proposed that knowing is composed of six successive levels arranged in a hierarchy.

6.Evaluation

5. Synthesis

4. Analysis

3. Application

2. Comprehension
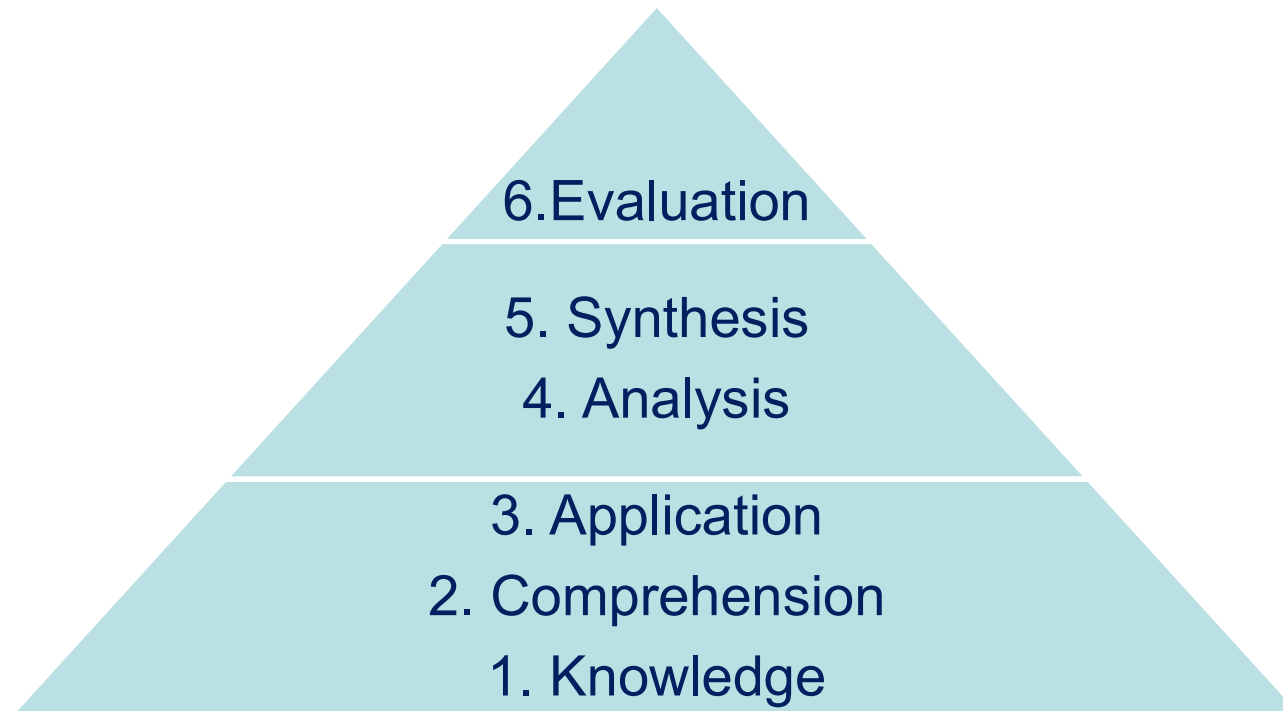
1. Knowledge

BLOOM'S CLASSIFICATION OF COGNITIVE SKILLS

Category	Related Behaviors
Knowledge	define, describe, identify, label, list, match, memorize, point to, recall, select, state
Comprehension	alter, account for, annotate, calculate, change, convert, group, explain, generalize, give examples, infer, interpret, paraphrase, predict, review, summarize, translate
Application	apply, adopt, collect, construct, demonstrate, discover, illustrate, interview, make use of, manipulate, relate, show, solve, use
Analysis	analyze, compare, contrast, diagram, differentiate, dissect, distinguish, identify, illustrate, infer, outline, point out, select, separate, sort, subdivide
Synthesis	blend, build, change, combine, compile, compose, conceive, create, design, formulate, generate, hypothesize, plan, predict, produce, reorder, revise, tell, write
Evaluation	accept, appraise, assess, arbitrate, award, choose, conclude, criticize, defend, evaluate, grade, judge, prioritize, recommend, referee, reject, select, support

HOW TO

- The learning activity to which the LO is linked could be, for example, a lecture, a module or an entire programme.

- Learning outcomes must not simply be a "wish list" of what a student is capable of doing on completion of the learning activity.

- Learning outcomes must be simply and clearly described.

- Learning outcomes must be capable of being validly assessed.

SOME EXAMPLES ...

At the end of the course students will be able to:

- ***Identify*** and consider ethical implications of scientific investigations.
- ***Differentiate*** between civil and criminal law
- ***Select*** and employ sophisticated techniques for analysing the efficiencies of energy usage in complex industrial processes.
- ***Compare*** and contrast the different electronic business models
- ***Propose*** solutions to complex energy management problems both verbally and in writing
- ***Predict*** the effect of change of temperature on the position of equilibrium.

CHECKLIST FOR WRITING LOs
(take one minute to read through the checklist)

- Have I begun each outcome with an active verb?
- Have I avoided terms like *know, understand, learn, be familiar with, be exposed to, be acquainted with, be aware of and appreciate?*
- Are my outcomes observable and measurable?
- Do all the outcomes fit within the aims and content of the course/module/curriculum?

EXERCISE

Which of the two Learning Outcomes below is more clearly written? And why do you think so?

- Students will understand the key historical, political, legal and moral influences that have shaped the idea of individual rights and freedoms.
- Students will be able to describe the key historical, political, legal and moral influences that have shaped the idea of individual rights and freedoms.

SUM UP

"Writing Learning Outcomes is a Process not an Event" (Bloom)

REFERENCE

Based on

Writing and Using Learning Outcomes: a Practical Guide

by D. Kennedy et.al.

Writing and Using Learning Outcomes: a Practical Guide

Declan Kennedy, Áine Hyland, Norma Ryan

Abstract

Given that one of the main features of the Bologna process is the need to improve the traditional ways of describing qualifications and qualification structures, all modules and programmes in third level institutions throughout the European Higher Education Area should be (re)written in terms of learning outcomes. Learning outcomes are used to express what learners are expected to achieve and how they are expected to demonstrate that achievement. This article presents a summary of developments in curriculum design in higher education in recent decades and, drawing on recent practical experience, suggests a user-friendly methodology for writing modules, courses and programmes in terms of learning outcomes.

WHAT ARE THE POTENTIAL PROBLEMS AND BENEFITS OF LEARNING OUTCOMES?

POTENTIAL PROBLEMS WITH LEARNING OUTCOMES

- Could limit learning if learning outcomes written within a very narrow framework – lack of intellectual challenge to learners.

- Danger of assessment-driven curriculum if learning outcomes too confined.

- Could give rise to confusion among students and staff if guidelines not adhered to when drawing up learning outcomes, etc.

Research has shown that in many institutions/countries LO are implemented on paper, but not in practice (no changes in teaching/learning methodologies, assessment).

THE BENEFITS OF LEARNING OUTCOMES

- Help to **explain more clearly** to students what is expected of them and thus help to guide them in their studies – motivation and sense of purpose

- Help teachers **to focus** more clearly on what exactly they want students to achieve in terms of knowledge and skills.

- Help to provide **guidance to employers** about the knowledge and understanding possessed by graduates of programmes (**communication with the labour market/employers**)

Help to start discussion on Teaching and Learning.

INPUT-OUTPUT

Teaching staff/resources

Labour market

SOURCES AND FURTHER READING

Jenny Moon, Exeter University: Linking Levels, Learning Outcomes and Assessment Criteria.

http://www.aic.lv/bolona/Bologna/Bol_semin/Edinburgh/J_Moon_backgrP.pdf

John Biggs: 'Aligning teaching and assessing to course objectives'. Teaching and Learning in Higher Education: New Trends and Innovations. University of Aveiro, 2003

Declan Kennedy, Áine Hyland, Norma Ryan: "Writing and using learning outcomes: a practical guide", article C 3.4-1 in Eric Froment, Jürgen Kohler, Lewis Purser and Lesley Wilson (eds.): EUA Bologna Handbook – Making Bologna Work (Berlin 2006: Raabe Verlag) (available on line)

Original work:

Taxonomy of educational objectives: the classification of educational goals; Handbook I: Cognitive Domain . New York, Longmans, Green, 1956.

SOURCES AND FURTHER READING

ECTS Users' Guide.2009 (http://ec.europa.eu/education/lifelong-learning-policy/doc/ects/guide_en.pdf)

European credit transfer and accumulation system (ECTS). Key features. 2004/2007 (http://ec.europa.eu/dgs/education_culture/publ/pdf/ects/en.pdf and http://ec.europa.eu/education/lifelong-learning-policy/doc/ects/key_en.pdf)

ECTS and Diploma Supplement Label Holders 2009 & 2010. MAKE MOBILITY A REALITY (http://ec.europa.eu/dgs/education_culture/documents/publications/ectsds0910_en.pdf)

SOURCES AND FURTHER READING

Attard, Angele; Di Lorio, Emma; Geven, Koen; Santa, Roberta: "Student centred learning. Toolkit for students, staff and higher education institutions", Brussels: 2010.

Diploma supplement:
https://europass.cedefop.europa.eu/en/documents/european-skills-passport/diploma-supplement

SOURCES AND FURTHER READING

http://ec.europa.eu/education/lifelong-learning-policy/eqf_en.htm

http://www.eua.be/eua-work-and-policy-area/building-the-european-higher-education-area/bologna-basics/Bologna-an-overview-of-the-main-elements.aspx

Shared descriptors for Short Cycle, First Cycle, Second Cycle and Third Cycle Awards -> Known as the 'Dublin Descriptors' after the meeting in which they were agreed, in Dublin, March 2004

THANK YOU FOR YOUR ATTENTION!

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