



Active Learning The difficult bit of Bologna

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What Bologna is about I - European strategic goals

- ☞ Last quarter of the 20th Century - Intense search of new routes for Europe and for the World
- ☞ Culminated with the European Council of Heads of State and Governments, March 2000, Lisbon
 - ✓ Competitive positioning relatively to the other blocks of the Planet
 - ✓ Stating of a strategic objective:
“By 2010, making Europe 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” .



What Bologna is about

II - The three dimensions of the Strategy

- ☞ The Economy Dimension - where we can identify the movement that converged in the creation of the EURO
- ☞ The Social Dimension - seen on the multiple objectives of social nature set in the “Lisbon Strategy for 2010”
 - ✓ In line with the European culture of humanism, reasoning, freedom and democracy
- ☞ The Knowledge Society Dimension - identified with the Bologna Process
 - ✓ with all the social, human capital and economical implications
- ☞ This knowledge dimension is very special
 - ✓ Because its universe goes well beyond the European Union
 - ✓ By its nature, many key aspects escape political and even economical control

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What Bologna is about

V - The European Higher Education Area

- ☞ Establishing till 2010, the European Higher Education Area, coherent, compatible, competitive and attractive for european students and for students from third countries
- ☞ A Space that promotes European cohesion through knowledge, through mobility and employability of graduates
- ☞ A Space that promotes the development of new paradigms of education

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What Bologna is about

VI - Detailing strategic objectives (I)

- ☞ The building of new European awareness and dimension in higher education, research and innovation:
 - ✓ For what cultural interchange through the mobility of young (and not so young) people plays a major role.

- ☞ The increase of European cohesion:
 - ✓ Again through mobility and always through knowledge, this being considered as the only way for strengthening the role of Europe in the World.



What Bologna is about

VI - Detailing strategic objectives (II)

- ☞ The re-structuring of the higher education system:
 - ✓ in order to bring higher education nearer to the needs of Society and simultaneously to offer a wider choice to youngsters that may bring them more individual satisfaction.

- ☞ An evolution of the teaching and learning paradigms:
 - ✓ adapting this learning process to the prevailing views and concepts of modern societies and to the available pedagogical means,
 - ✓ projecting in particular the education for the adult stages of life, in this way adapting to the evolution of knowledge and to the evolution of individual and collective interests.



What Bologna is about VII - MAIN Instruments for change

☞ *Quality Assurance*

By 2005 national quality assurance systems should include:

- ✓ A definition of the responsibilities
- ✓ Evaluation of programmes or institutions
- ✓ A system of accreditation, certification or comparable procedures.
- ✓ International participation, co-operation and networking.

☞ *Degree structure:*

- ✓ Adoption of a system essentially based on two main cycles

☞ *Promotion of mobility*

- ✓ Establishment of a system of credits - also an accumulation system, to be applied consistently
- ✓ Recognition of degrees: Adoption of a system of easily readable and comparable degrees, through descriptors of competences



Issues about Bologna I - What is relevant for the individual countries?

☞ For sure a smooth transition, BUT:

- ☞ To understand the change of development paradigm ...linked to opportunities of co-operation, which indeed includes also financing of transnational projects
- ☞ To understand the evolution of the Society in requirements and opportunities
 - ✓ New competences
 - ✓ New paradigms of education
 - Learning more centred on the students work
 - Continuous education
 - ✓ New markets of learning and for jobs

☞ Answer the question - What... If I do not change?



Issues about Bologna

II - Understanding the new generations

- ☞ Understanding their intuition thinking, using that to catalyse their development of holistic perception
- ☞ Understanding that the evolution of concepts and ideals from generation to generation can only be achieved by having them participating and influencing the discussion of the issues
- ☞ Adapt the offer of higher education to attract young people
- ☞ A major issue in Portugal - review the links and coordination between secondary education and higher education



What matters...for the discussion Today... Difficulties...

- ☞ Difficulties hindering progress
 - ✓ Yes, we have the required legislation
 - ✓ Hard to change corporative concepts
 - ✓ VERY HARD to change teaching/learning methods
 - They require change of some methods used for decades
 - They require time for adapting or making new dossiers



What matters...for the discussion Today...

Action - Define Programme Outcomes

and accredit degrees (I)

- ☞ Programme outcomes for accreditation should always be related to potential professional recognition of engineering qualifications
 - ☞ As such:
- ☞ There must be only one set of programme outcomes for accreditation of Second Cycle Degrees
 - ☞ (Whatever the profile and programme, to be discussed below)
- ☞ There must be only one set of programme outcomes for accreditation of First Cycle Degrees



What matters...for the discussion Today...

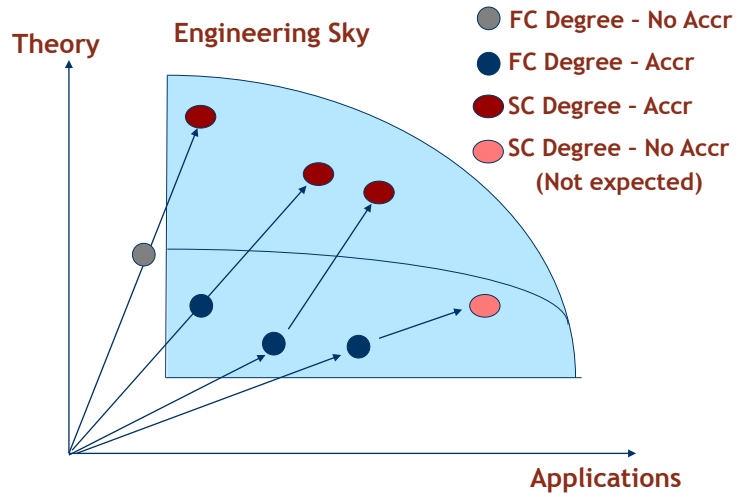
Action - Define Programme Outcomes

and accredit degrees (II)

- ☞ Programme Outcomes must be evaluated in relation with the level of intervention in the Engineering Act
 - Social responsibility (namely, signing projects)
 - Capacity to tackle large, complex problems
 - Capacity to adapt to new jobs of high complexity and responsibility
 - Capacity for effective activity in the production line
 -
- ☞ For the different subsets of Programme Outcomes, and for the First and Second Cycle Degrees, the differences in requirements are mostly related with
 - scope, depth and breath



Engineering Degrees Profiles and Accreditation for Professional Recognition (taken from Prof. JD Woerner, CESAER, Lisbon, 2005)



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The role of Students

- ☞ Active participants in several issues
- ☞ Pushing forward the correct application of ECTS concepts
- ☞ Actively participating in the enforcing of new methods

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