

The Bologna Declaration and European Engineering Education



What is going on??

- The Sorbonne declaration.
- The Bologna declaration.
- International and national follow-up groups.
- The meeting in Salamanca end of March
- The planned meeting of European ministers of education in Prague in May.

The European Higher Education Area

- “mobility”, “transparency”, “compatibility” and “comparability”.
- Words like “harmonisation” and “convergence” are not used in the declaration itself but they appear in background documents.
- A special emphasis is put on the international competitiveness of European higher education.

The Bologna Declaration

- Adoption of a system of easily readable and comparable degrees, also through the implementation of the Diploma Supplement, in order to promote European citizens' employability and the international competitiveness of the European higher education system.

The Bologna Declaration, cont'd

- Establishment of the system of credits – such as ECTS system – as a proper means of promoting the most widespread student mobility.
- Credits could also be acquired in non-higher education contexts, including lifelong learning, provided they are recognised by the receiving Universities.

The Bologna Declaration, cont'd

- Promotion of mobility by overcoming obstacles to the effective exercise of free movement with particular attention to:
 - *for students: Access to study and training opportunities and to related services*
 - *for teachers, researchers and administrative staff: Recognition and valorisation of periods spent in a European context researching, teaching and training.*

The Bologna Declaration, cont'd

- Promotion of European co-operation in quality assurance with a view to develop comparable criteria and methodologies
- Promotion of the necessary European dimension in higher education, particularly with regards to curricular development inter-institutional cooperation, mobility schemes and integrated programmes of study, training and research.

The Crucial Point

- **Adoption of a system essentially based on two main cycles, undergraduate and graduate.**
- Access to the second cycle shall require successful completion of first cycle studies, lasting at least three years.
- The degree awarded after the first cycle shall be **relevant to the labour market**
- The second cycle should lead to the master and/or doctorate degree.

Concern #1

- The special conditions for Engineering Education are not considered.
- Engineering education is very large and important professional sector, like for instance medical education
- **We already have a model for Engineering Education which is compatible with the idea of a “European Area of Higher Education”.**

Myth

~~European Engineering Education is very diverse,
varies wildly from country to country and is
impossible to understand for outsiders.~~

- The integrated European 5-year curricula are quite well-established.
- Create 1-2 year Master's programmes in English, (or French and Spanish).

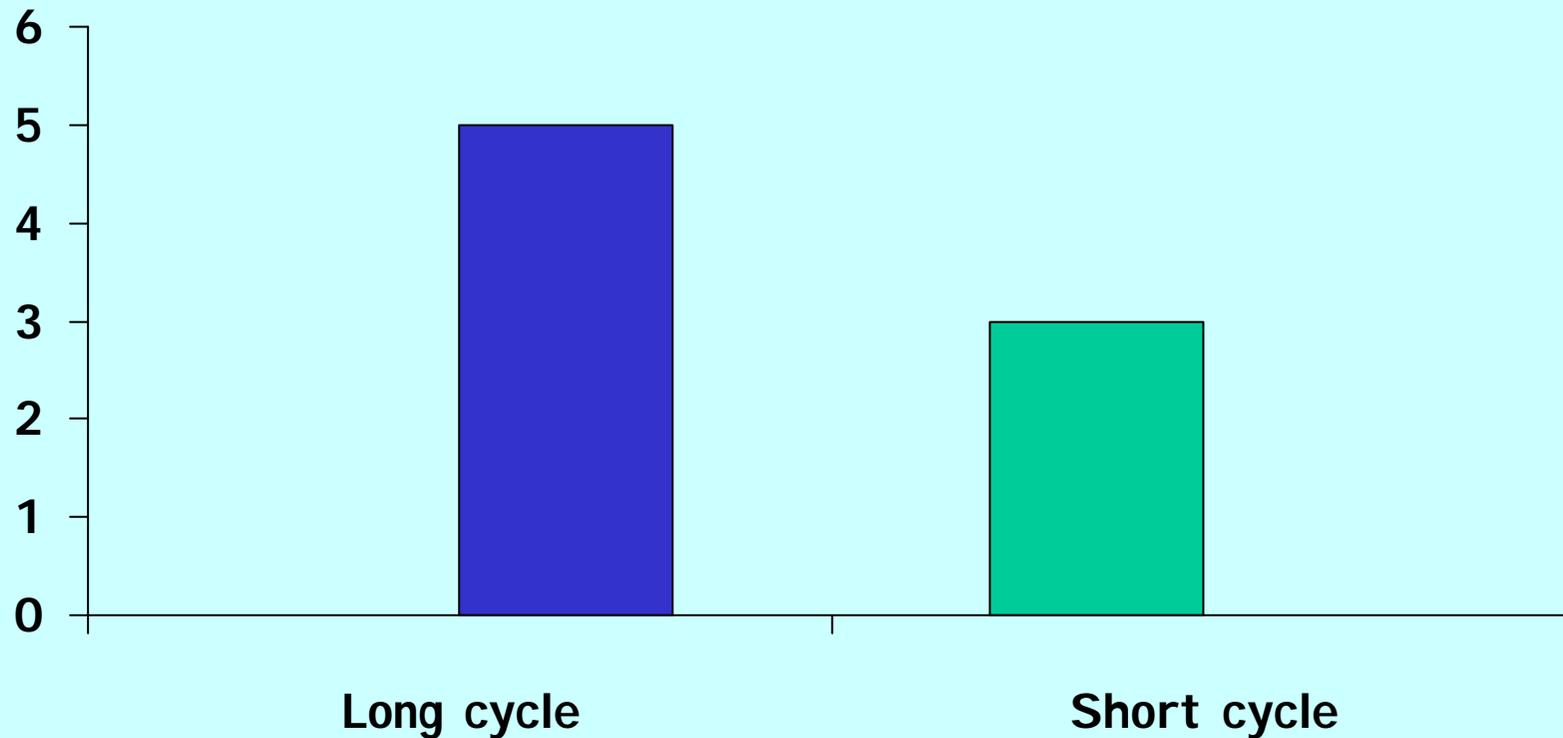
Concern #2

- Must we import a US model?
- Is there any “Anglo-Saxon” two-tier model?
- No, the main North American Engineering Education Degree is a Bachelor's degree.

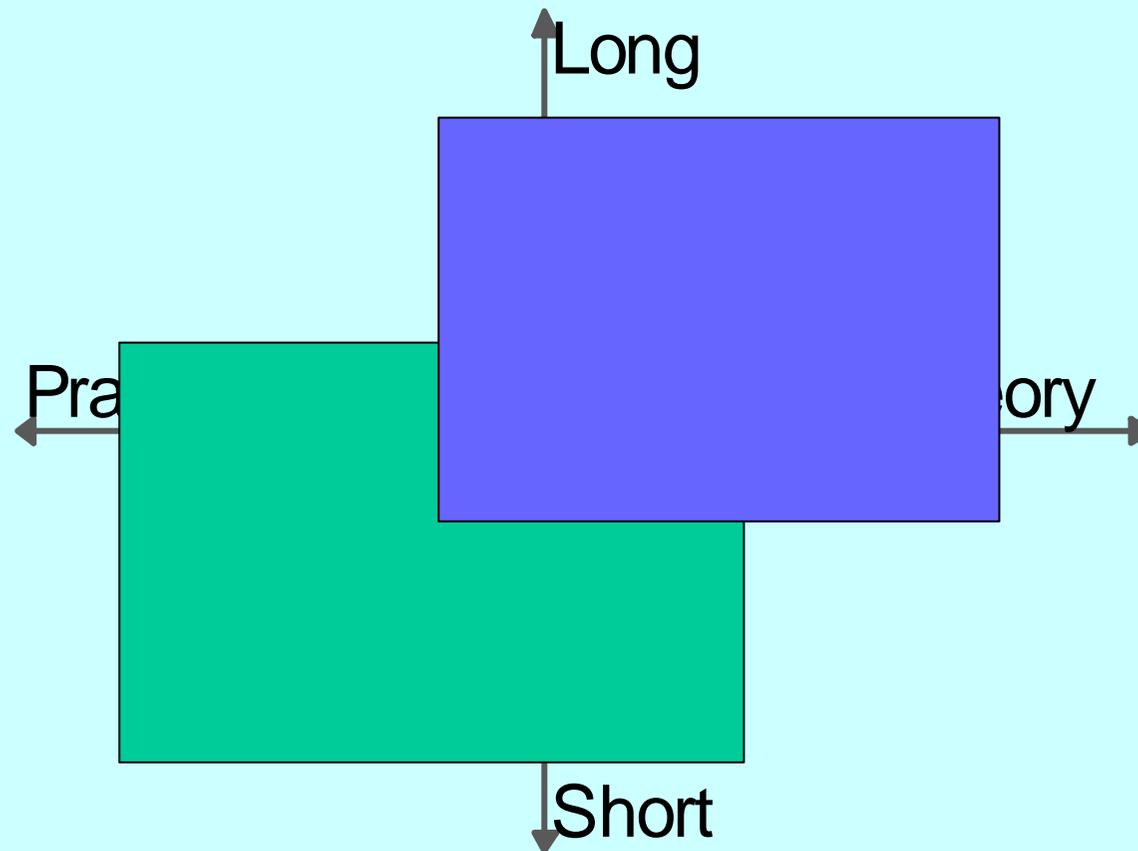
Concern #3

What happens to the shorter and application-oriented engineering education?

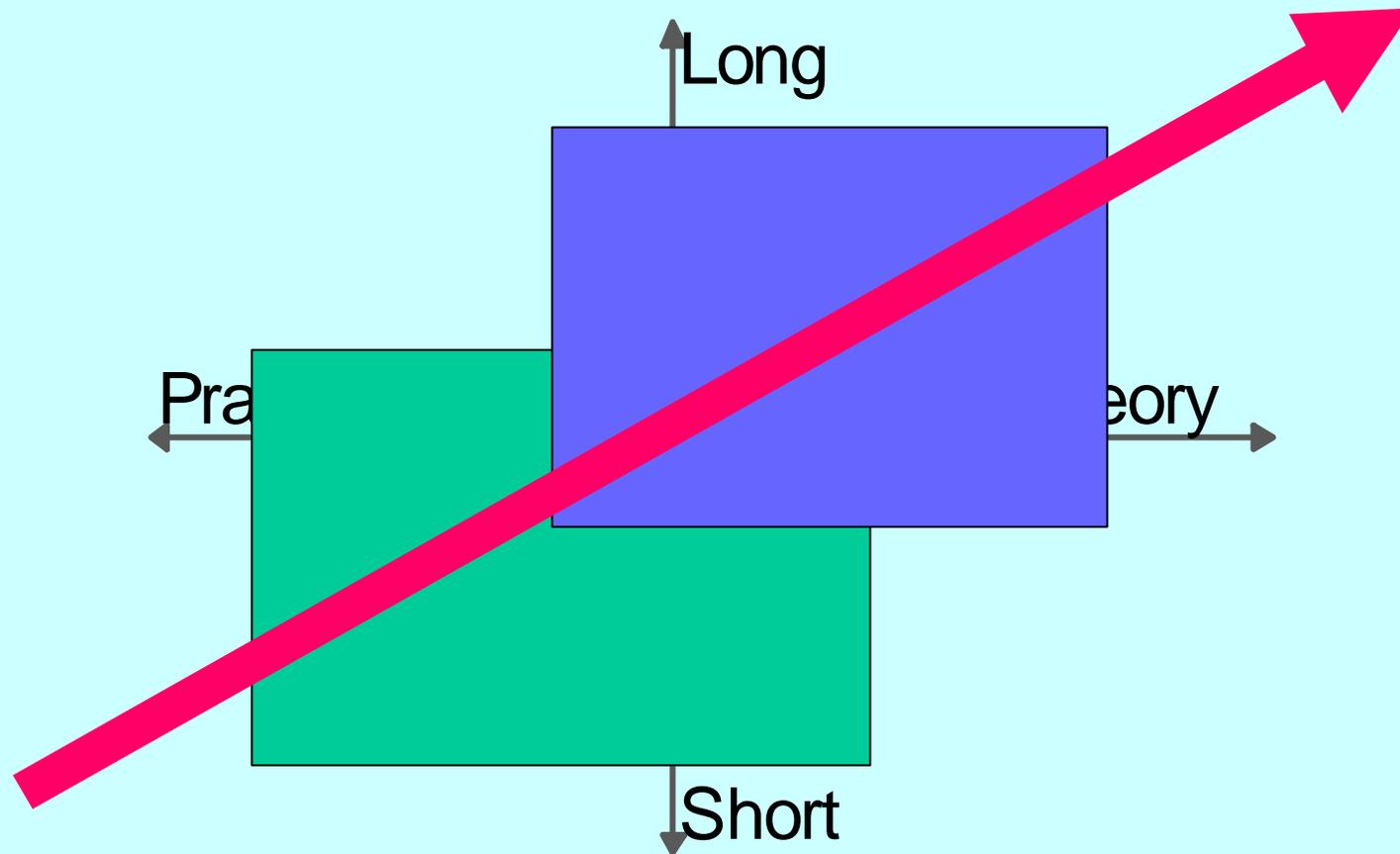
Two types of programme



Two types of programme



Academic drift



What is the actual situation?

- European Credit Transfer System (ECTS);
- Readability;
- Accreditation and quality;
- Mobility;
- “International” Master 's degrees;
- “3-5 system”; Bachelor/Master ?
- International competitiveness.

Bachelor/Master system

- Italy has introduced the system in total conformity with the Declaration;
- The British initially thought that the Declaration would not necessitate any changes in the system;
- Germany has introduced a Bachelor/Master system in parallel to the classical Dipl.-Ing. by an earlier decision;
- The French engineering education system has not been changed.

Alternatives

- A two-tier system is in place since several years;
- The Government imposes a new BSc/MSc-system;
- Universities are left free to decide for themselves;
- Nothing happens, no decisions taken.

More

- In some countries will the new system replace the old, in others the BSc/MSc model and the classical will exist in parallel, at least for the time being.
- In some countries the new intermediate degree (BSc) will just be a point for mobility, a "pivot point" and not really "*relevant to the labour market*". Other countries stay more close to the Declaration.
- Shorter education:
 - *How should it fit into the Bologna scheme?*
 - *Difference between these and the new BSc degrees?*
 - *Will it survive?*
 - *National differences.*

A reasonable way out

- Let the new BSc/MSc “3+2” system and the classical system exist in parallel;
- Consider the new intermediate degree primarily as a point of mobility;
- Make a clear distinction between the new intermediate degree” and the Applied Engineering 3 year degrees;
- Create many new 1-2 year Master’s programmes in English (or in other international languages).

SEFI 's view

- SEFI welcomes the important initiative taken by the European ministers of Education in signing the Joint Declaration in Bologna in June last year;
- SEFI strongly supports the idea of the creation of a European Higher Education Area;
- SEFI shares the opinion of the Ministers concerning the need for a system of easily readable and comparable degrees, through a Diploma Supplement or otherwise;

SEFI 's view, cont'd

- SEFI supports a wider use of the ECTS system as a proper means to promote student mobility;
- SEFI is convinced of the importance of increased mobility for students, teachers, researchers and administrative staff;
- SEFI is already committed to the idea of developing the European dimension in Education;
- SEFI shares the opinion of the European Ministers concerning the importance of European cooperation in quality assurance and accreditation;

but

- any reform of the structure of European Engineering Education must take the particular conditions of this field of education into account,
- the existing European integrated 5-year curricula in Engineering are compatible with the idea of a European Education area,

and

- the existing European system of longer integrated curricula leading straight to a Master's degree in Engineering should be maintained, possibly in parallel with a two tier Bachelor/Master system,
- the longer, as well as the shorter, more application-oriented, curricula correspond to a clear need and graduates from both types of programme have a good position on the job market,

and

- the specific qualities of the present, existing, application-oriented Engineering degrees should be recognised and safe-guarded,
- the creation of new 1-2 year Master's programmes in Engineering should be encouraged.