



ENAE

European
Accreditation
of Engineering
Programmes
EUR-ACE®

**PROMOTING MOBILITY AND
EMPLOYABILITY
BY HARMONISING ENGINEERING
PROGRAMMES ACCREDITATION CRITERIA**

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SEMINAR OUTLINE

- **Employability and Mobility**
- **World Class Education for Europe**
- **QA of engineering programme accreditation in UK**




**EMPLOYABILITY AND
MOBILITY**

Eur Ing
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1st ENAAE
Conference
Porto
Portugal

12-13 Nov.
2012

EMPLOYABILITY THEOREM

Career development is the students' investment of their time in Higher Education and this requires time and money as students' invest financially in their Career Development.

So:

$$\textit{Career Development} = \textit{Time} \times \textit{Money}$$

and as we all know

$$\textit{Time} = \textit{Money}.$$

Therefore

$$\textit{Career Development} = \textit{Money} \times \textit{Money}$$

EMPLOYABILITY THEOREM

Or

$$\textit{Career Development} = \textit{Money}^2$$

and because highly paid jobs are available to those who have the right employability skills:

$$\textit{Money} = (\sqrt{\textit{Employability}})^2$$

And thus we conclude:

$$\textit{Career Development} = \textit{Employability}$$

EU DIRECTIVE 2005/36

CONTEXT

- Member States often had laws and rules stating exactly what qualifications are needed for a particular trade or profession.
- Directive 2005/36 attempts to deal with this problem.

EU DIRECTIVE 2005/36

CHAPTER 1

- Applies to regulated professions which require **formal qualifications** in the host State.
Principle of mutual recognition.
 - The host State must accept qualifications of a similar level obtained in other Member States, subject to 'compensatory measures' (adaption period or aptitude test).

EU DIRECTIVE 2005/36

CHAPTER 2

- System of automatic recognition of qualifications attested by **professional experience** in certain industrial, craft and commercial activities
 - The host State must recognise professional experience in another Member State as sufficient.

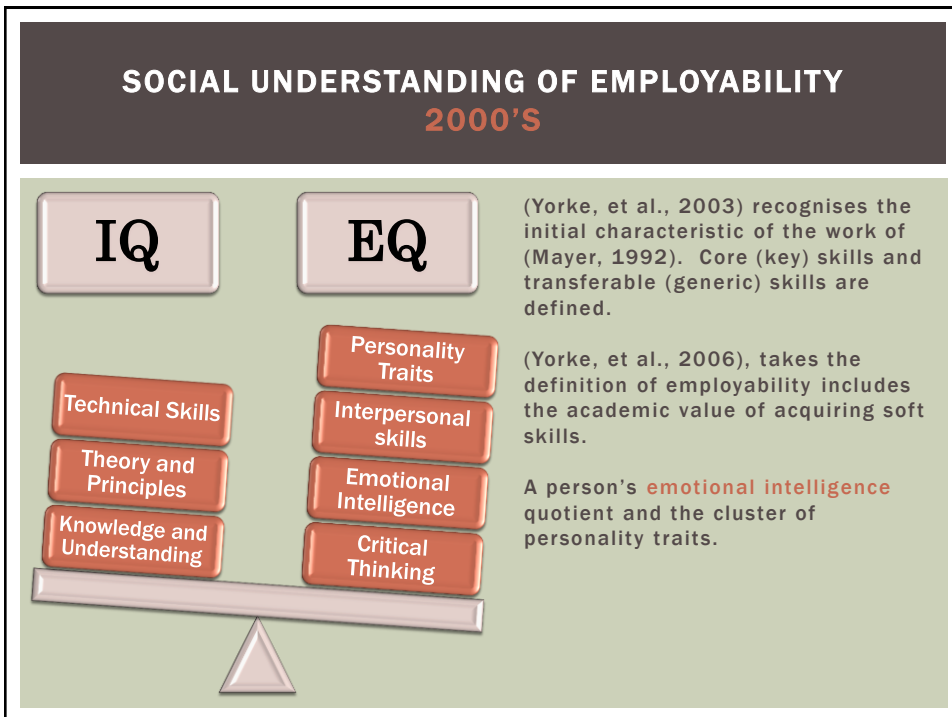
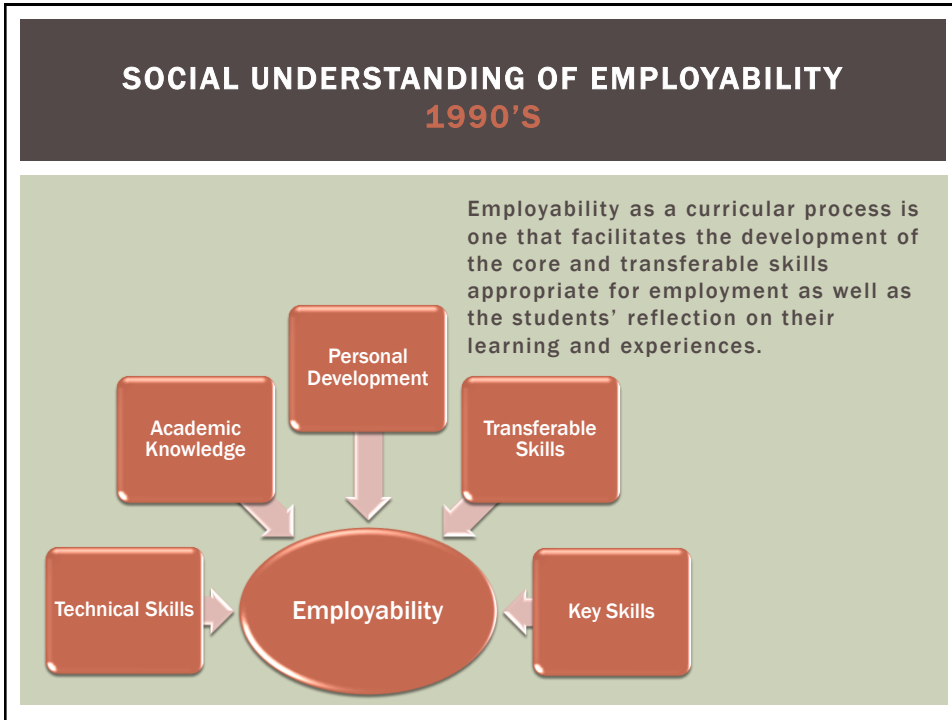
EU DIRECTIVE 2005/36

CHAPTER 3

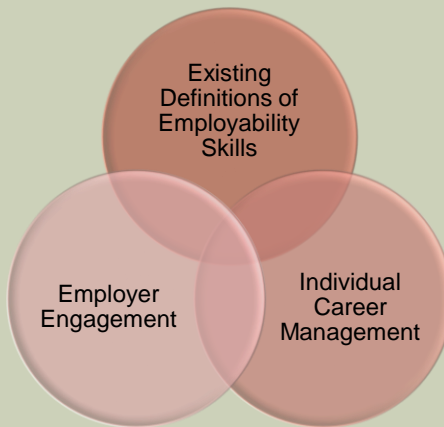
- System of **automatic recognition** of qualifications for specified professions
 - The approach is to harmonise minimum training standards in all Member States for the profession in question.

SOCIAL UNDERSTANDING OF EMPLOYABILITY

- The Dearing Report (Dearing, 1997) chose to focus attention in recommending the **key skills** of communication, numeracy, the use of information technology and learning how to learn.
- (Yorke, 2006) develops the idea that employability is **not the same as employment**, (it involves the capacity of the graduate to function in a job).



CONTEMPORARY VIEW OF EMPLOYABILITY



The context of the state of a nation's economy and the concept of lifelong learning.

The (UK Commission for Employment and Skills, 2009): **focus on employer engagement**.

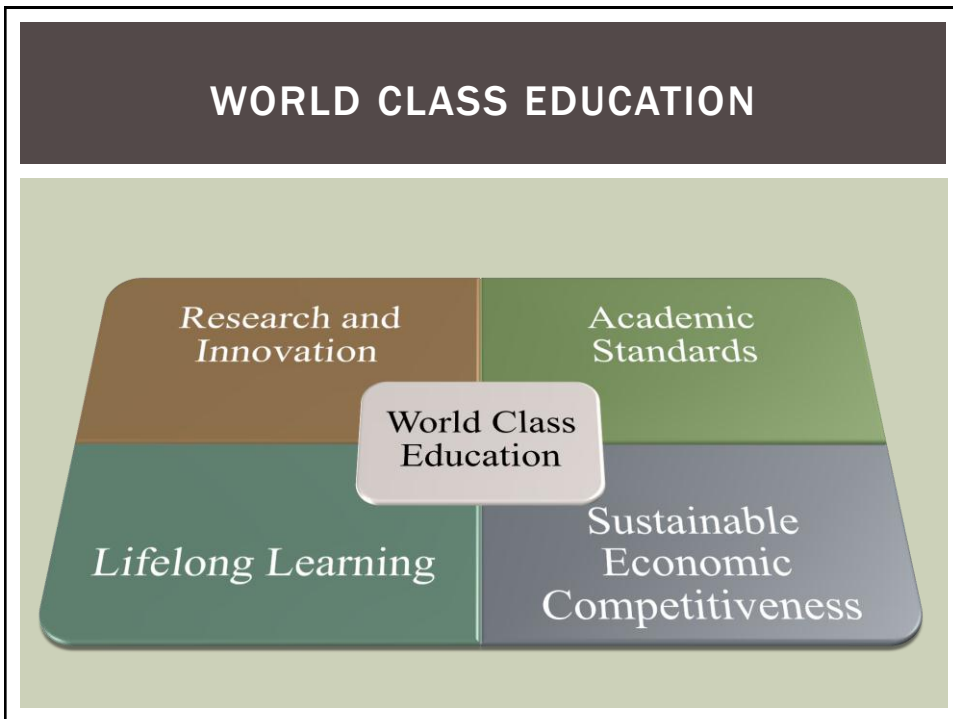
Employability into the curriculum is not of type "one size fits all".

Sensitive to the regional and national labour markets, sociological trends of student recruitment and the importance of economic prosperity, creativity, innovation and entrepreneurialism in the workforce.

CHALLENGES OF MOBILITY (DANISH TECHNOLOGICAL INSTITUTE, 2008)

- Involved movement between employers, between occupations, steps on the career ladder and unemployment mobility.
- U-shaped relationship between overall job mobility and economic growth with mobility contributing significantly to innovation, particularly in knowledge-intensive sectors, with **very low levels of mobility as well as very high levels being detrimental to economic growth**.
- Flexible contractual arrangements, effective labour market policies and **comprehensive lifelong learning policies** are also appointed as contributing factors to job mobility.

The banner features the ENAEE logo (a blue circle with yellow stars) on the left, followed by a graphic of blue stars and gears. To the right, the text reads "European Accreditation of Engineering Programmes" and "EUR-ACE®". The main title "WORLD CLASS EDUCATION" is centered in white on a red background. On the right, a dark grey vertical bar contains the text: "Eur Ing João Paulo Ponciano", "1st ENAEE Conference Porto Portugal", and "12-13 Nov. 2012".



RESEARCH AND INNOVATION

- Institutional research expected to permeate curriculum at all levels.
- Stimulate student inquisitive minds.
- Establish knowledge transfer schemes with active industry participation.
- Builds HEI record of peer esteem

ACADEMIC STANDARDS HE QUALITY LABELS

- Signals to employers the degree of comparability of higher education systems in hiring citizens from the signatory states.
- Protective layer for those wishing to recruit high calibre engineers based on their engineering practice and personal competencies.
- Describe the value of professional membership, career development and lifelong learning with clear specifications of the levels for attainment of the different professional engineering categories. (e.g. Chartered)
- European dimension in quality assurance has not been fully adopted to the extent where social benefit can be easily identified.

SUSTAINABLE ECONOMIC COMPETITIVENESS

- Integrates the HEI in the regional, national or international economy.
- Source of Intellectual property
- Enterprise and Consultancy activities
- Social Responsibility

LIFELONG LEARNING FOR AN ENGINEER

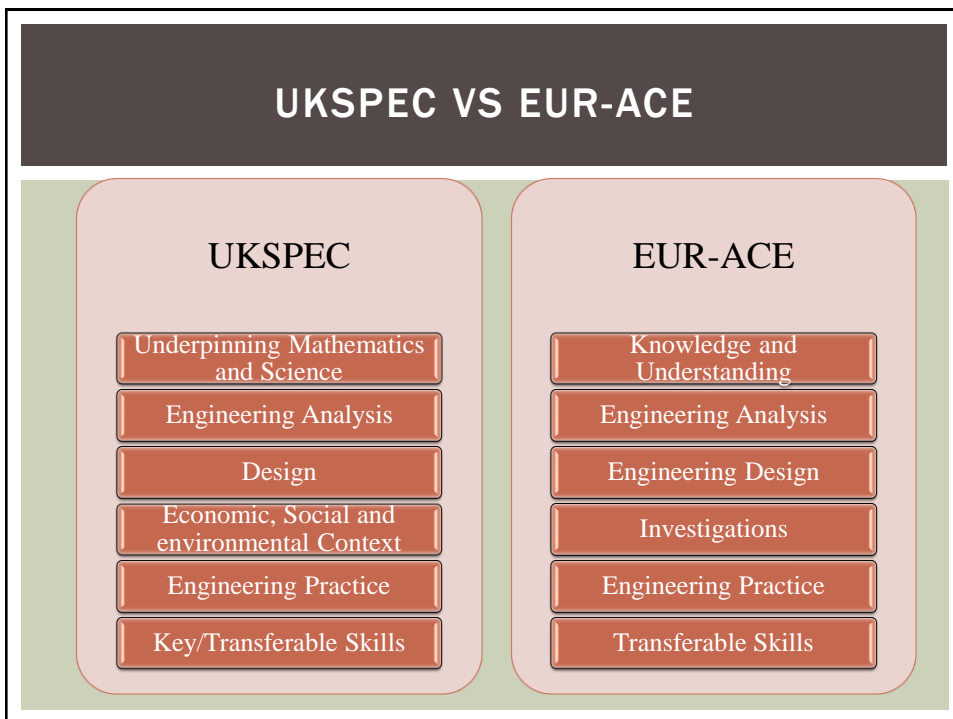
- Keeping of a **personal development plan**:
 - detailing the **knowledge and skills** developed through his/her career
 - a reflection on the **level of proficiency** attained in the different job roles and responsibilities
 - and identifying plans and making preparations to **undertake training**
 - to **bridge the gap** between contemporary engineering practice required for a sustainable economic development and the level of individual professional knowledge and ability.

**QUALITY ASSURANCE OF
ENGINEERING
PROGRAMME
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UKPSB QA VISIT EXAMPLE

INSTITUTION OF ENGINEERING AND TECHNOLOGY

- Focus on programmes of study
- Duration: 2 days excluding prior submission of documents
- Typically 4 accreditors
- Mix of Education and Industry backgrounds
- The accreditation process looks at the programmes aims and objectives and whether these follow a **SMART** (specific, measurable, attainable, relevant and time bound) rationale.

UKPSB QA VISIT EXAMPLE

INSTITUTION OF ENGINEERING AND TECHNOLOGY

- The level of innovation of the programmes is also considered under this heading. (**both curriculum and delivery methods**)
- Any outcomes from previous accreditation visits are checked with particular emphasis with the **full compliance with previous accreditation action plans** imposed on the institution.
- Examination papers, **continuous assessment practices**, the balance of assessment and laboratory work are looked to ensure appropriateness of the work and internal and external scrutiny.

UKPSB QA VISIT EXAMPLE

INSTITUTION OF ENGINEERING AND TECHNOLOGY

- The level and balance of **group work, industrial influence**, sponsorship and training on the programmes.
- Student **admission, progression and awards** standards.
- Student **individual engineering project**.
- The **resources and facilities** for the teaching of each engineering programme
- The visit is fully reported and **action plans are drawn** after the visit.

CONCLUSION

- Academic accreditation is a step further in the promotion of mobility.
- The harmonisation of accreditation criteria reassures the public, business and industries.
- Education quality labels(e.g. EUR-ACE) develops Quality Assurance (Development and Improvement) Schemes

CONCLUSION II

- Does not endanger educational diversity
- Reinforces the status of engineering educational pedagogy
- Promotes employability and shares values of a world class educational system.



THANK YOU FOR LISTENING

YOUR QUESTIONS PLEASE

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