Postgraduate Education

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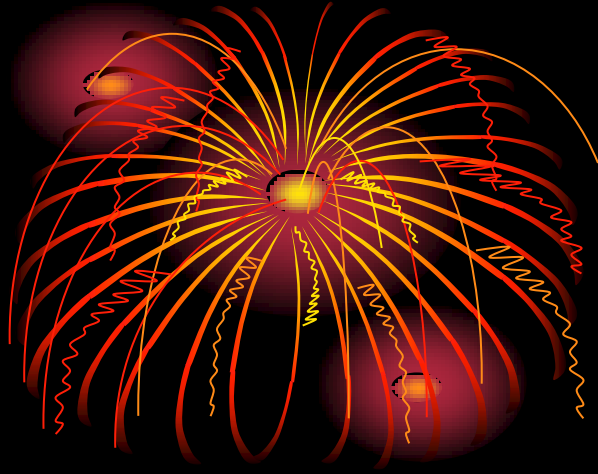
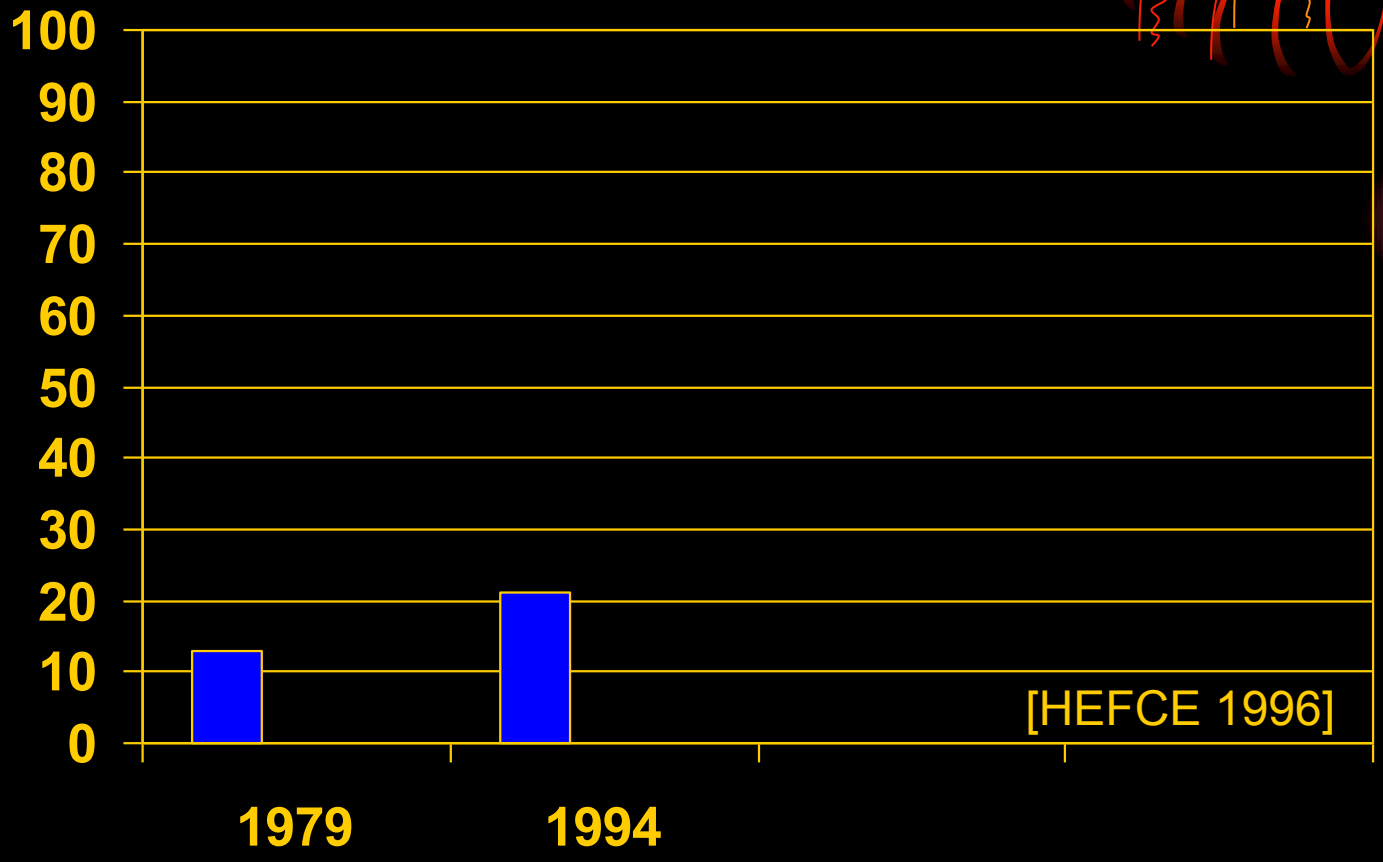
Themes

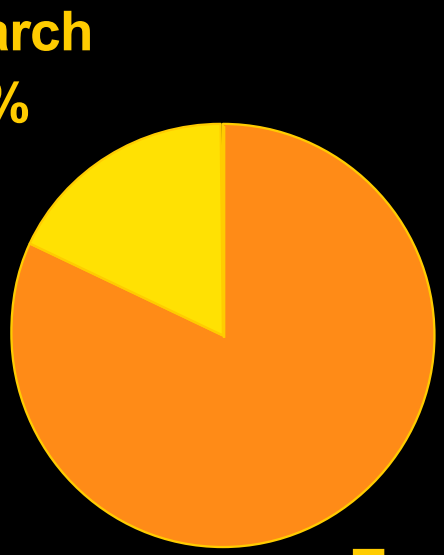


1. International Growth in PG Education: UK Example
2. Typology of PG Programs
3. PG Education: A Strategic Resource
4. PG Curricula and Teaching

PG students as % of (UG+PG) in UK

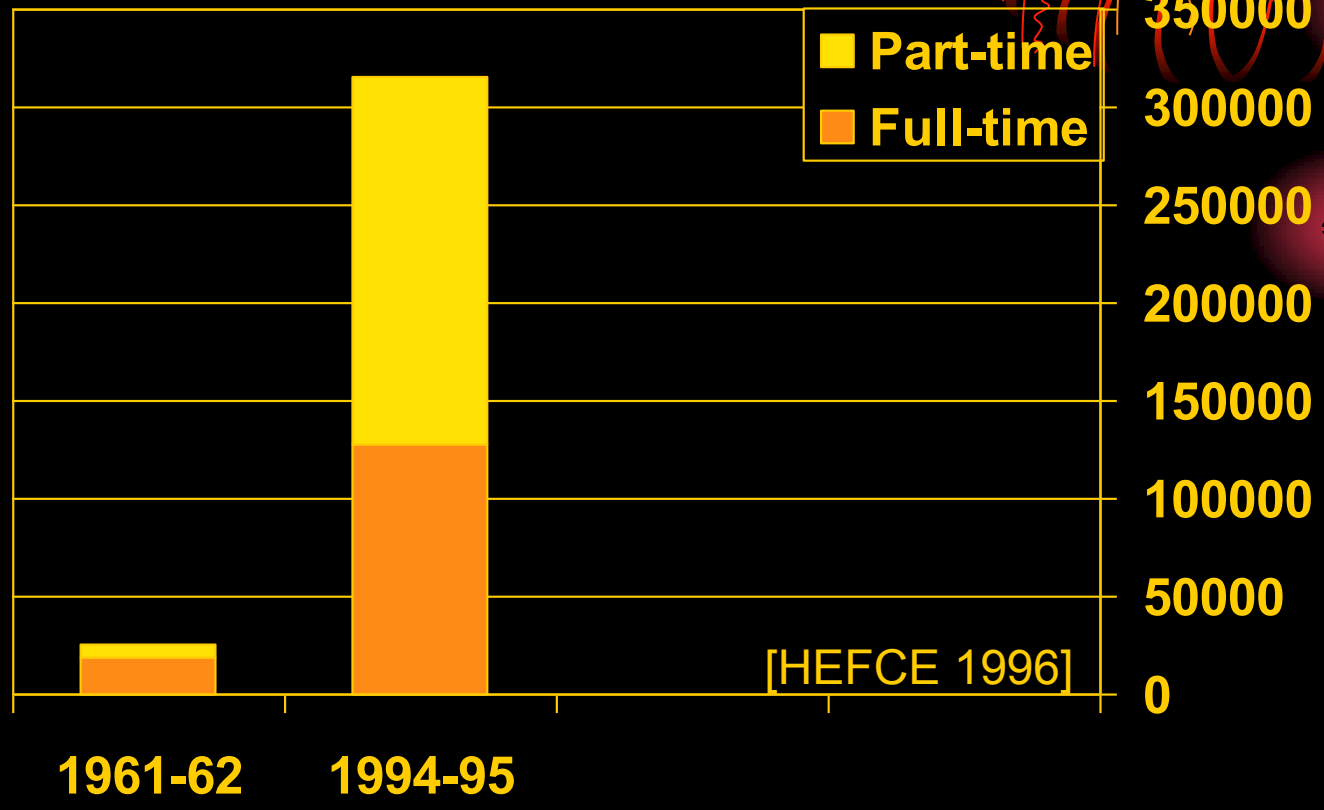


PG-taught versus PG-research (UK 1994)



[HEFCE 1996]

Full-time Versus Part-time PG Education in UK



PG Qualification Titles in UK

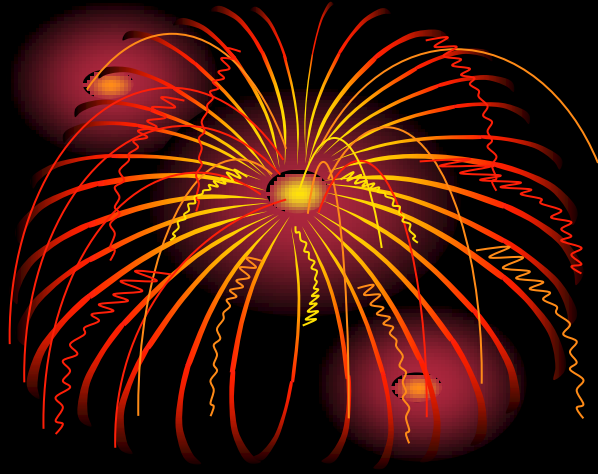
- Postgraduate Certificate: Mainly practice or training related, equivalent of 9 FT months
- Postgraduate Diploma: Mix of professional and training content, >= 25% UG material, equivalent of 9 FT months
- Masters - subject specific titles (e.g., MEcon, <= 25% UG material, equivalent of 9 FT months
- Masters - generic titles (e.g., MA, MSc), at least 75% PG material, 25% devoted to a research project or dissertation, equivalent of at least 1 FT year

- MPhil, >= 50% spent on a research project, 1-2 FT years
- PhD, awarded on the basis of an individually produced piece of research which is free-standing and makes an original contribution to the subject area. 3 FT years
- EngD, taught component plus a substantial piece of innovative industrial work conducted or supervized in-depth personally, 3 FT years
- Taught doctorates, more professional related
  - Other doctorates should be distinguished by referencing the relevant subject area, such as the EdD

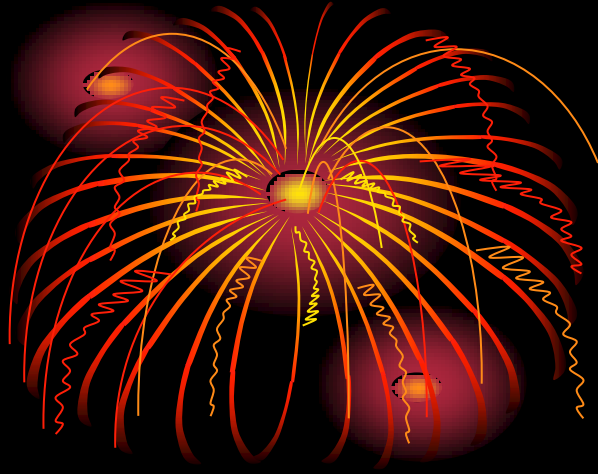
Typology of PG Programs (UK) (Based on Program Aims)

1. PhD: Promote research and scholarship
2. MPhil: Prepare for research
3. Traditional Masters: Deepen subject knowledge
4. Conversion Masters: Convert from one field to another (e.g., engineering to management) by developing new professional and practice-related skills
5. EngD: Promote technological innovation in industry through the production of a creative piece of work

US System

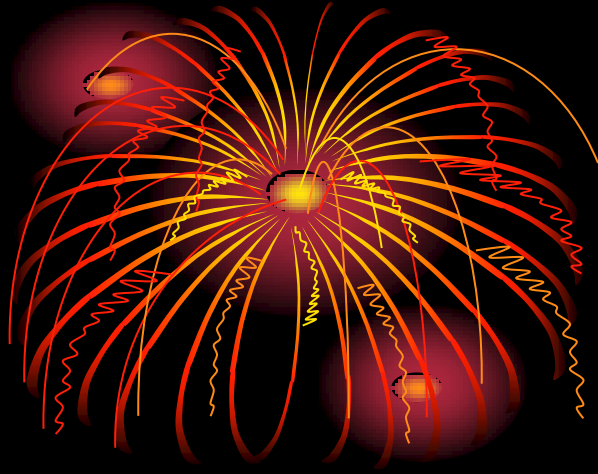


- ✓ Much less structured
- ✓ Much less award-centric
- ✓ PG education is dovetailed into continuing and/or on-line distance education.
- ✓ Greater curricular diversity (innovation)
- ✓ More demand (student and/or industry) oriented
- ✓ Greater credit accumulation culture
- ✓ Greater credit transfer culture



PG Education: A Strategic Resource

Purposes of PG Education



- **Private:**

  Serve the needs of individuals

  (stimulate minds, learn new skills and knowledge, develop intellectual and cultural appreciation)

- **Public:**

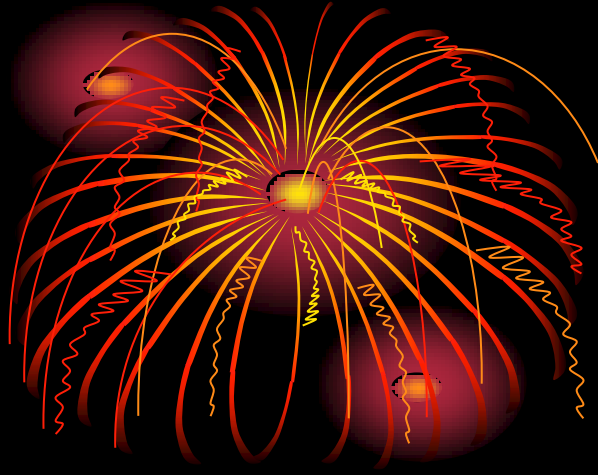
  Provide intellectual capital for industry and economy so as to enable wealth creation (assist in the processes of innovation, entrepreneurship,and technological development)

[HEFCE 1996]

Benefits Derivable by Institutions through Involvement in PG Education

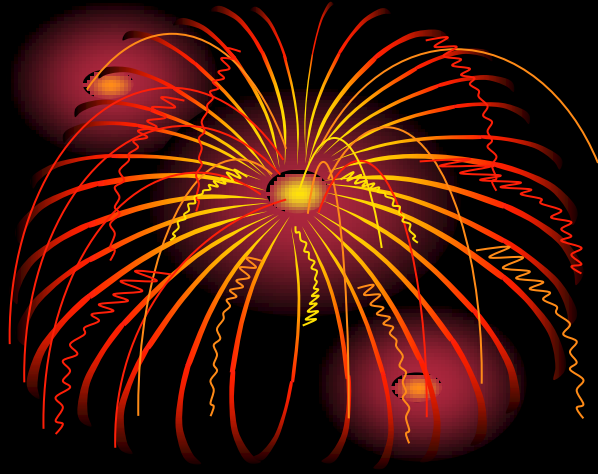
1. Fees
2. Enhanced opportunities for staff development
3. Underpinning research through PG-R students
4. PG students can transfer their real-world experiences to UG students
5. PG students can provide strong links to industry, thus promoting staff/institutional consultancy activities and enhancing employment opportunities for UG students

Thus, PG programs can also be used as a strategic resource in enhancing the competitive edge of the institution by improving the quality and time to delivery of UG programs.



PG Curricula and Teaching

Master's Programs: Context of Learning



Complex, unpredictable and normally specialized, demanding innovative work which may involve exploring the current limits of knowledge.

Till Recently:

- PG programs were designed to meet mainly the needs of large local industries with respect to a specific profession.
- Program prepared for the specific assumed career.

Contemporary Questions:

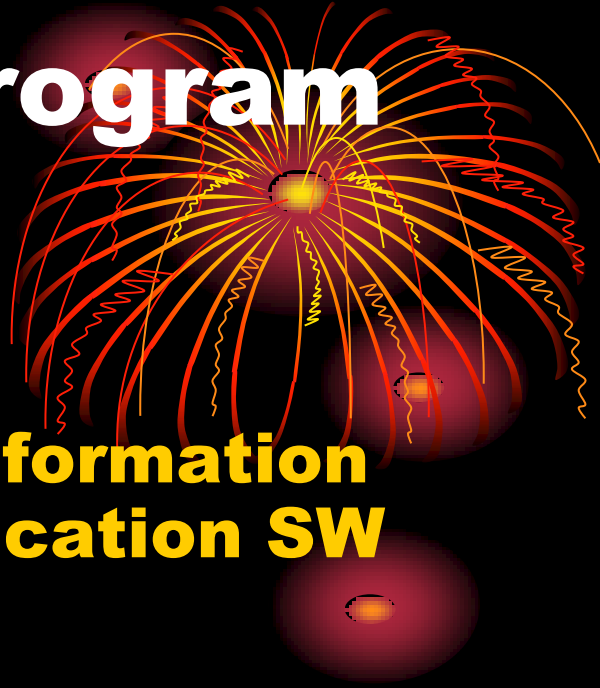
- Will the large industries continue to be large?
- Do the large industries really know what would continue to be good locally: Globalization, dynamic competition, Industrial obsolescence due to technology growth.
- Aren't we preparing human capital as much for the world as to serve local economy?

Remember

- Three Career Syndrome: On average, three different careers within a life time. Hence, more important to 'learn to learn' than learn a specific field.
- More graduates tending to be self-employed:

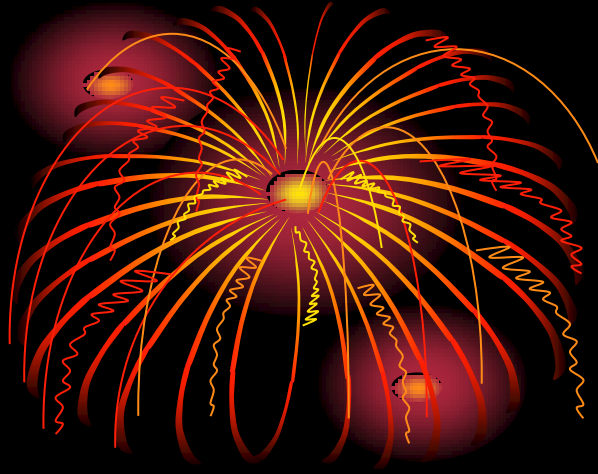
  consultants, entrepreneurs.

A PG Engineering Program Should Also Aim to Develop



- The ability to use relevant information technology (an array of application SW needed).
- Project management skills.
- The ability to collaborate efficiently with others (linked but individual projects).
- The ability to work inter-disciplinarily.
- Knowledge of career paths outside academia.

PG Curricula



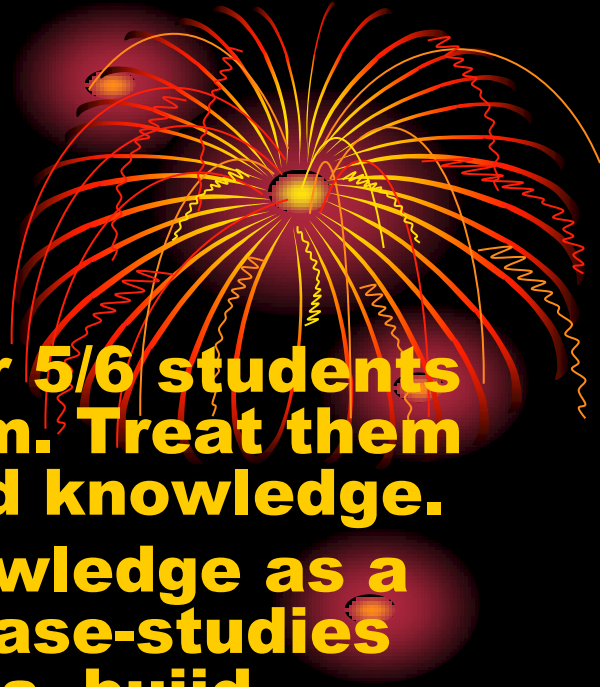
- ✓ Do not treat a Master's course as a program made up of years 5 and 6 of the corresponding UG program.
- ✓ Curricula should be interdisciplinary, intellectually challenging, and cover greater breadth. Maximize E-Learning. Be transparent.
- ✓ Curricula should be future-oriented.

PG Curricula (contd.)

Curricula should be tuned to industrial needs: future-oriented surveys, advisors from industry, industry-based projects with intellectual content.

- ✓ Seek to promote innovation, entrepreneurship, or self-employment. (However, empirical data show that the most educated are the least entrepreneurial.)
- ✓ As many PG subjects as possible should include a term paper relating principles learnt to the student's work experience.

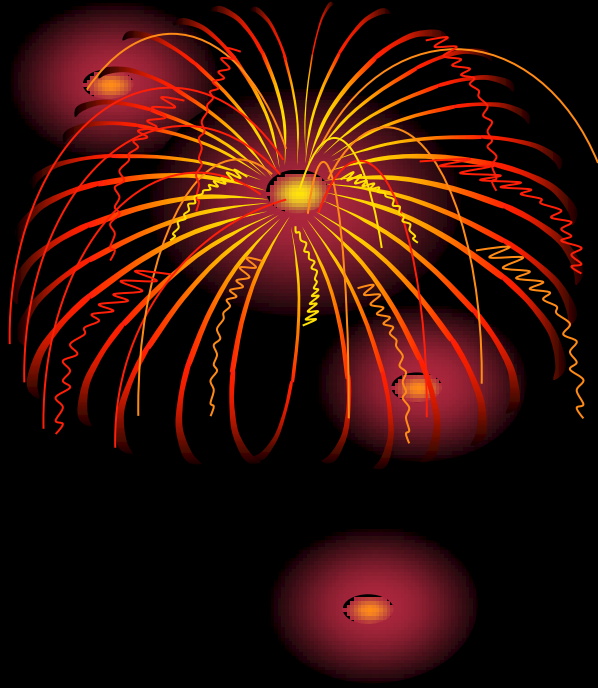
PG Teaching



- Do not treat PG students as year 5/6 students of the corresponding UG program. Treat them as peers with superior real-world knowledge.
- Use PG students' real-world knowledge as a strategic resource: Build local case-studies through term papers and projects, buiid bridges to local industry. Focus on learning, not teaching. Provide formally approved and monitored individual study plans.
- Desirable to use present and past PG students as industry mentors and/or linked-project supervisors of UG students.
- Have a lively alumni association.

PG Teaching (contd.)

- **Harvard Method: Give open-ended material with specified learning objective in advance. Substitute lecture with classroom discussion. Leverage upon student maturity. Actively seek sharing of experiences and opinions.**
- **Do not insist on recording classroom attendance. Instead, promote attendance by making lectures enjoyable and value-adding. Use continuous assessment to ensure attendance.**
- **Progressively increase e-Learning component (exploit the recent initiative by IODevUni.**



THANK YOU

References

1. HEFCE (Higher Education Funding Council for England Committee of Vice-Chancellors and Principals Standing Conference of Principals), “Review of Postgraduate Education,” May 1996, Reference M 14/96, http://www.hefce.ac.uk/pubs/hefce/1996/m14_96.htm#chap2