Transferable Skills Training

- Why do we need it
- What is it?
- Does it work?

© Imperial College London

Skills Training – Why do we need it?

© Imperial College London

SET for success (2002)

A review, chaired by Sir Gareth Roberts, into the supply of science and engineering skills in the UK

"PhDs do not prepare people adequately for careers in business

or academia

– *in particular, there is insufficient access to training in interpersonal and communication skills, management and commercial awareness"*

© Imperial College London

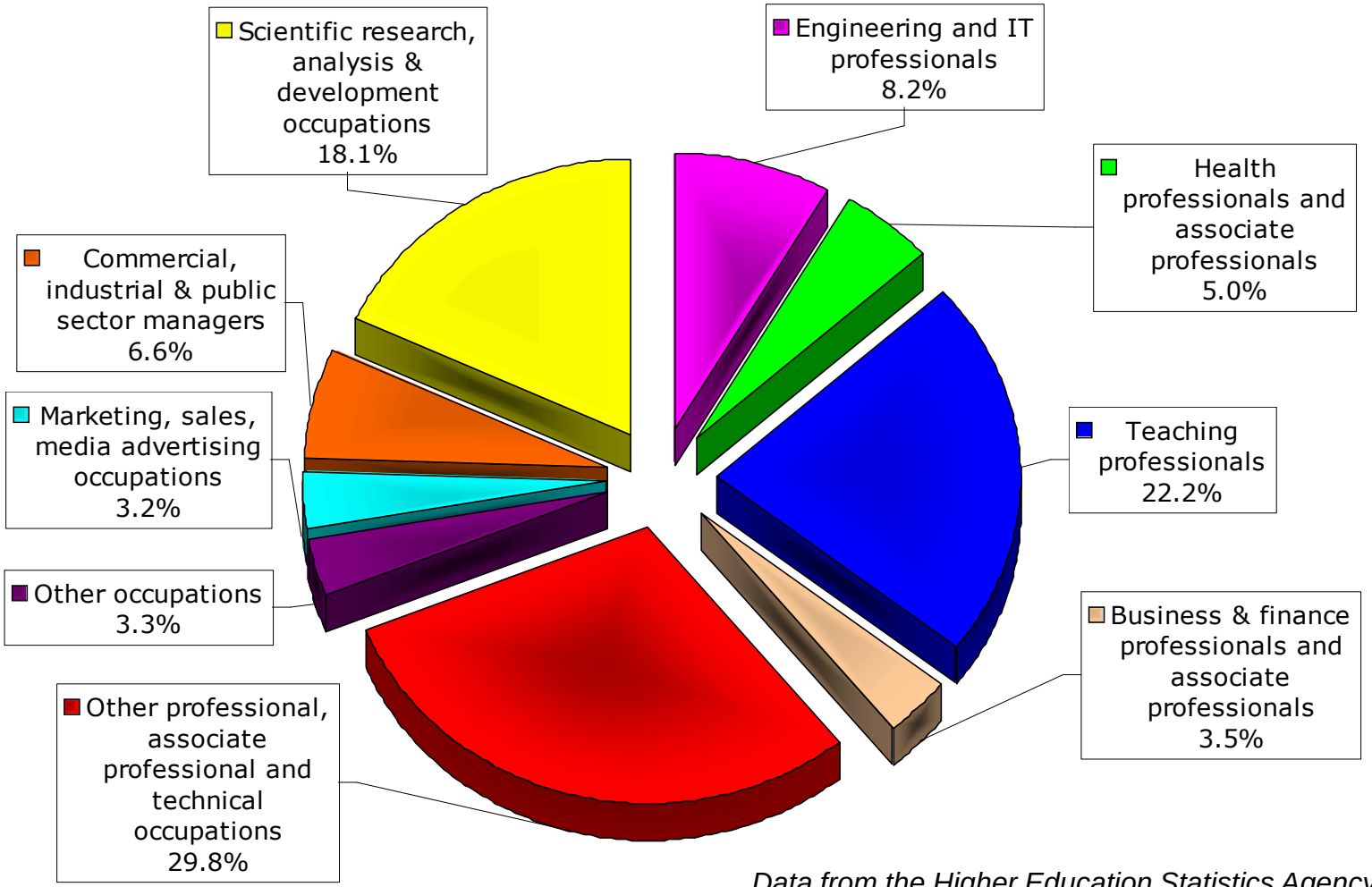
Changing nature of doctoral programmes

"the product that the PhD researcher creates is not the thesis – vital though that is to their subject area through the creation of original knowledge – no, the product of their study is the development of themselves"

Sir Gareth Roberts

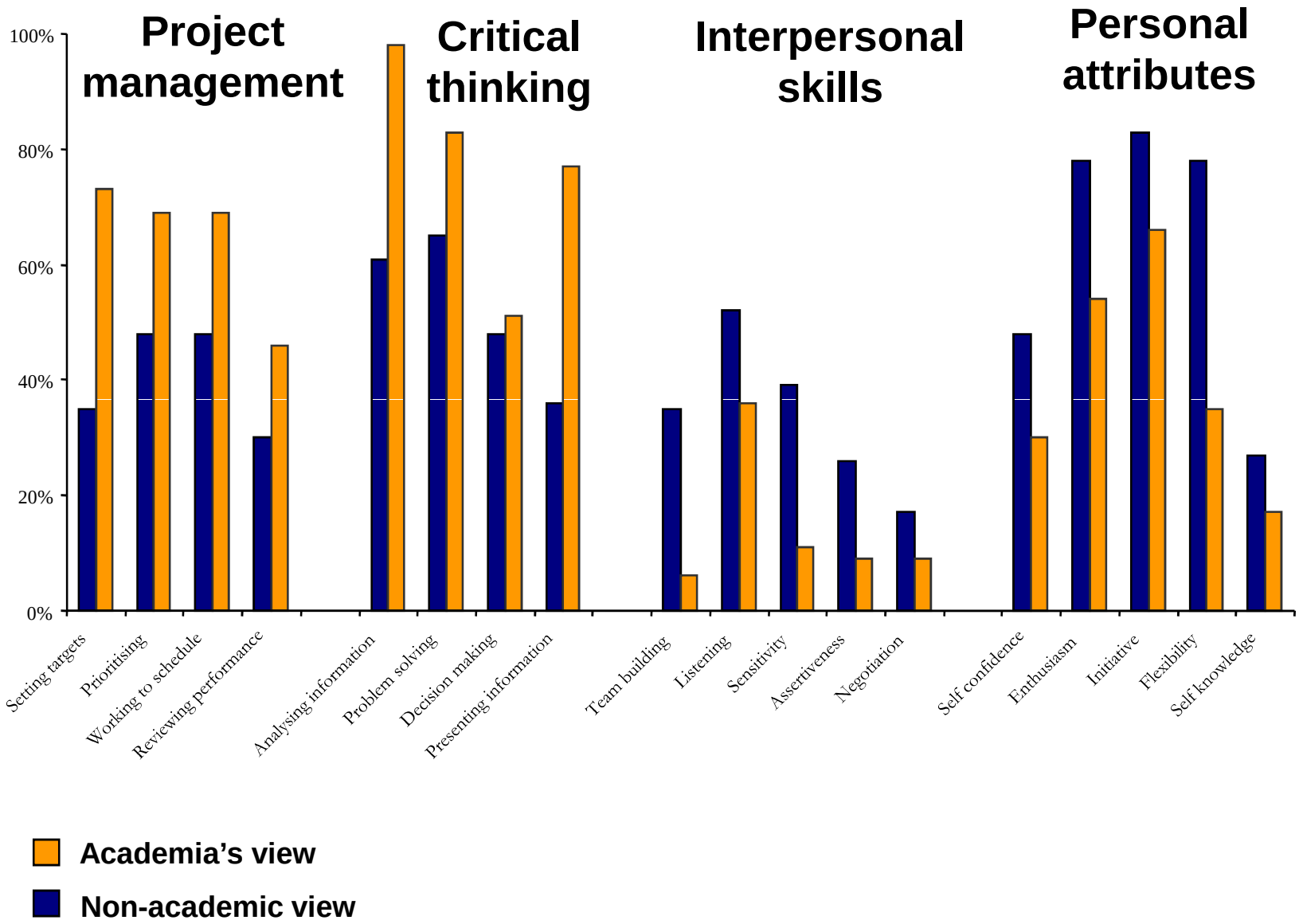
© Imperial College London

What Do PhDs Do?: Key Occupations



Data from the Higher Education Statistics Agency

Skills and attributes essential for researchers



Less than a preparation for a career...

2003 Study: PhD career paths 6-8 years on

[50% private sector / 35% academia / 15% public sector]

Skills that could have been given more emphasis:

1/3	project management
1/4	leadership, financial management, time management
1/5	teamwork and communication

Study of the Career Paths of PPARC PhD graduates, 2003

© Imperial College London

Skills Training – What is it?

© Imperial College London

Training in transferable skills
examples of workshops

- Time management and personal effectiveness
- Communication and presentation skills
- Writing skills
- Science and the media
- Myers Briggs
- Teamwork
- Motivation
- Negotiation skills
- Career planning
- Business Courses
- Creativity and Ideas generation
- Commercialisation of research
- *minimum attendance required*

© Imperial College London

Delivery – the trainers/ the format

Making the implicit explicit

© Imperial College London

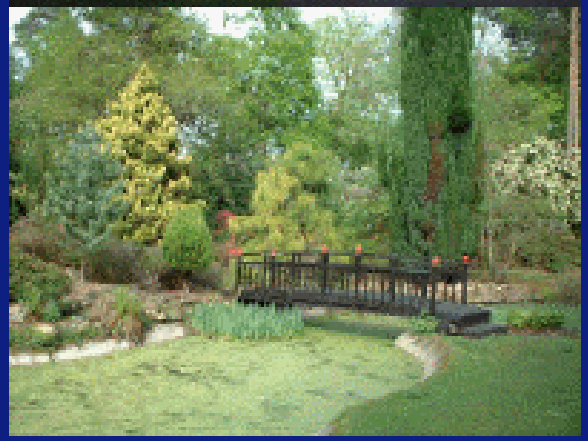
Who delivers this training?

- Internal professionals
  - 2 Senior Lecturers in Transferable Skills (2004)
  - Science Communication Group, Humanities Department
- Training-the-trainers
  - Cohort of ~50 internal academic staff (from Science Departments)
  - Communications and presentation skills
  - Teamwork
- External professionals

© Imperial College London

Residential workshops

- 3-day residential workshops
- Aimed at 1st year students
  - About 70% intake
- Student accommodation on site
- Space for team activities and informal interaction
- Attractive isolated location (captive audience!)



© Imperial College London

Day 1: Research Skills

- Planning and Project Management
  - The framework MPhil->PhD
- Individual Research Degree Planning
  - Gant and network charts
- Creativity
  - Attitude and skills
- Resources
  - Technical, analytical, social

© Imperial College London

Day 2: Self Awareness and Relationships

- Group Dynamics
- Introduction to Myers Briggs
- Conflict and Collaboration
- Course Dinner

© Imperial College London

Day 3: Succeeding in Research

- Research Collaboration
- Research Challenges

  Student – supervisor relationship”

  “PhD planning”

  “motivation”

  “networking”

  “stress management”

© Imperial College London

Skills Training – Does it work?

© Imperial College London

RSD: Some Achievements…

- evidence of continued peer contact / support after course
- “seeding” for the development of some key skills
- effective introduction to / promotion of Graduate Schools’ workshops
- raised awareness of student and supervisor responsibilities

© Imperial College London

The Skills Perception Inventory (SKIPI)

Questionnaire

4 skills areas:

- group work
- communication
- planning and project management
- personal awareness

+ “value and benefits of skills training”

© Imperial College London

Procedure

- paired-samples study (i.e. repeated measures):
  pre- and post-course differences
  (follow-up study after ~5-6 weeks)

- administered on 10 courses in 2005/6
  (32 students per course)

- questionnaire internal reliability; control

© Imperial College London

Sample Questions (36)

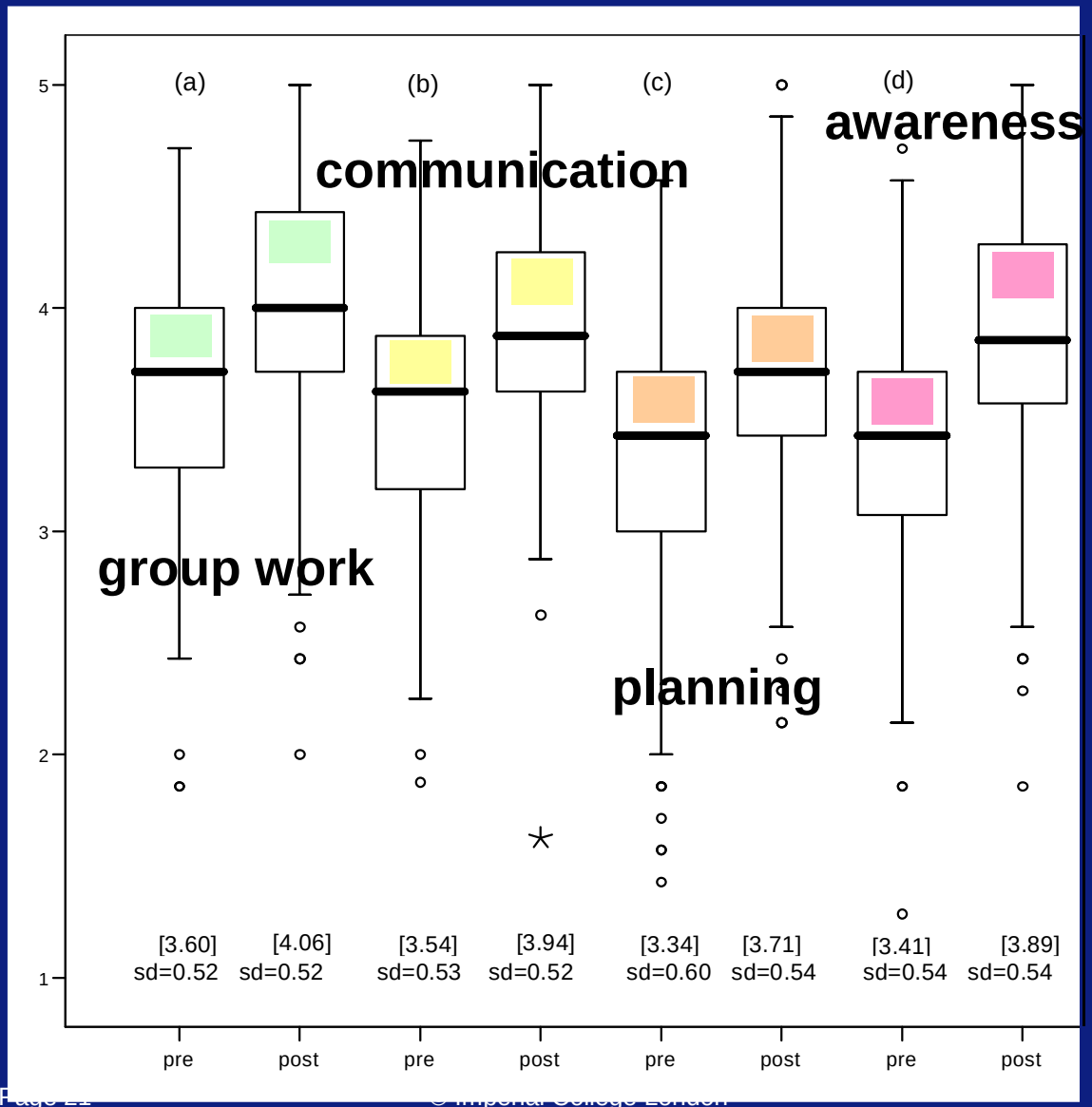
Marked 1 (v uncomfortable) to 5 (v comfortable)

- Recognising excessive stress in myself
- Co-ordinating a group project
- Being able to enthuse a non-expert about my work

- Having a good understanding of research ethics
- Describing the good attributes of a conference poster

© Imperial College London

Pre- and Post-Course Differences?



✓ $p < 0.001$ for all cases

✓control Q's: <u>no</u> differences

Retest after 6 weeks : Results consistent

© Imperial College London

Background Differences

gender - pre-course gender differences in group work and communication areas only ($f<m$; $p<0.02$)

- “working with others on an interdisciplinary group project”
- “having my ideas listened to by other group members”
- “coordinating a group”

- “being able to give constructive feedback to peers and other students”
- “dealing with conflict with my supervisor”

© Imperial College London

Background Differences 2

research stage: pre-course differences in project planning between senior and other students (senior > other)

residential status: pre- and post-course skills perception differences between home and other students (home < other)

faculty: pre- and post-course differences in skills training benefits between nat. sci. and engineering / medical students (e/m > ns)

© Imperial College London

Summary

PhD students are still students

what should they be learning?

© Imperial College London