The Teaching Researcher: Faculty Attitudes Toward the Teaching and Research Roles

Esat Alpay and Rianne Verschoor

Faculty of Engineering

e.alpay@imperial.ac.uk

www.imperial.ac.uk/people/e.alpay
today

- motivation for study
- UK survey of STEM faculty, i.e. research-active teachers
- recommendations
motivation

- tensions between teaching and research in universities widely reported

- growing dichotomy between the teaching and research responsibilities of faculty, and inherent weaknesses for teaching in research-intensive universities
  Alpay & Jones (2012)

- but little work on specific faculty motivations (and in-group variations) for research-teaching integration and academic career development
National HE-STEM Project

“Practices and Approaches for the Integration of Teaching and Research” (April 2011 – April 2012)

• to identify and disseminate practices that help faculty manage and integrate their research and teaching

• data collected from semi-structured interviews, case studies and a national online survey

• 12 case study summaries, from a subset of 34 academic staff interviews now available
examples of case study participants

Stephen Richardson – Imperial College London
Stephen is Deputy Rector, Professor of Chemical Engineering and former Principal of the Faculty of Engineering and Head of Department (Chemical Engineering) [1].

“Avoiding micro-management and building confidence”
When the bigger picture is managed well, both academic staff and students are able to develop their skills and confidence accordingly.

Bernard Porter – Coventry University
Bernard is Head of the Department Mechanical and Automotive Engineering.

“Understanding the impact of the political agenda”
The direction, content and future of both research and (engineering) education is dependent on politics and economics.

Paul Ewart – Oxford University
Paul is Head of atomic and Laser Physics at the Clarendon Laboratory.

“Teaching is as fulfilling as research”
Doing research and teaching to the best of your ability to gain the respect of both your colleagues and students.

Verschoor and Alpay (2011); see: www.heacademy.ac.uk/resources/detail/subjects/engineering/Case_Studies_on_the_Teaching_Researcher_2013
the national survey focused on a range of faculty attitudes toward the teaching and research roles, such as:

- the perceived value of teaching (and teaching achievements) relative to research
- general approaches for research and teaching integration
- the satisfaction gained from common teaching and research activities
- the importance of various work-life factors
methodology (national survey)

participants

• data collection from a broad range of institutions to reflect individual examples of teaching and research excellence across the HE sector

• network through contacts within 3 UK university groups:
  
  Russell Group:  24 elite research universities
  
  Million+ Group:  22 post-1992 universities; former College or Polytechnic (i.e. teaching-focus)
  
  1994 Group:  11 relatively small research universities
questionnaire

• 16 questions: mix of closed and open questions (former typically requiring a response on a 7 point Likert scale); 7 background questions

• 2 questions adapted from previously published surveys on practices for teaching and research integration Ramsden & Moses (1992); Jenkins & Healey (2005)

• where possible, a direct comparison of teaching and research related roles carried out e.g. value of research vs. teaching publication
procedure

• survey transcribed into SurveyMonkey for online administration and piloted on three academic colleagues

• circulation to 62 institutions and ~ 7000 faculty

• cover note to survey summarised motivation and ensured anonymity; relevance to faculty who are involved in both teaching and research stated

• 4 weeks provided for survey completion, with reminder for completion in week 3
results

demographics
(N = 411; ~6% overall sample rate, 12% Russell Group)

• 40.6% S, 6.3% T, 41.8% E and 11.2% M

• 65% of respondents from 21 Russell Group universities

• 71.5% male and 28.5% female
  75% and 65% male representation from Russell and non Russell Group universities respectively

• 25.5% lecturer; 41.6% senior lecturer; 23.6% professor; 9.2% other (e.g. teaching / research fellow)

• years of teaching:
  23.4% 0-5 yrs; 20.6% 6-10 yrs; 56.0% 11+ yrs
actual work balance

Russell Group mean=4.2

non Russell Group mean=4.9

all research / no teaching

all teaching / no research
ideal work balance

Russell Group
mean = 3.1

non Russell Group
mean = 3.4

all research / no teaching
all teaching / no research
“Doing good research enhances my UG teaching”

• 76.9 % - favourable response: “occasionally” (23.5%), “often” (35.4%) or “to a great extent” (18.0%)

• participants with longer work experience and / or higher academic rank responded more favourably
“My research is enhanced by my UG teaching”

• 45.0 % - favourable response: “occasionally” (25.7%), “often” (13.5%), “to a great extent” (5.8%)  
• participants with longer work experience and / or higher academic rank responded more favourably
general approaches for student engagement in research

✓ awareness level approaches, e.g. use of research anecdotes / examples in the classroom:
  “always” (15.5%), “frequently” (45.6%), “occasionally” (29.6%)

✗ reading, discussion or writing of research papers:
  “occasionally” (35.1%), “never” or “rarely” (44.8%)

✗ learning through research work / inquiry-based activity:
  “occasionally” (35.1%), “never” or “rarely” (23.5%)

{higher levels of student research engagement in S than E}
Other examples of the use of research in UG teaching response categories in descending popularity:

1. Use of research data and research papers in classroom problems

2. Teaching of material that the lecturer would like to learn for their own research, i.e. learning through teaching

3. Students as subjects of research, e.g. computer science education, user interface design

4. The use of open-ended problems as a means of explorative research and research-idea generation; also hypothesis testing and initial literature review
important aspects of work-life

- Sabbatical / secondment
- Academic team teaching
- Industry teaching collaboration
- Research-teaching integration
- Advancement within organization
- Industry research collaboration
- Personal development opportunities
- UG student development / learning
- Collaborative research opportunities
- PG student development / learning
- Diversity of work
- Inspirational colleagues
- Flexible working hours
- Intellectual work environment
- Academic freedom

nRG (+0.3) nRG (+0.5) nRG (+0.5) nRG (+0.6) nRG (+0.3) nRG (+0.4) nRG (+0.3) nRG (+0.1)
task enjoyment

- Assessment of courses
- Preparation of research
- Preparation of courses
- Interaction with UG students
- Delivery of courses
- Research dissemination
- Research student supervision
- Undertaking research

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<th>Task</th>
<th>Enjoyment</th>
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<td>Assessment of courses</td>
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<td>Preparation of research</td>
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<td>Interaction with UG students</td>
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<td>Delivery of courses</td>
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<td>Undertaking research</td>
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value of achievements (entire sample)

- Education related publications
- Success in teaching activity funding
- Teaching: international recognition
- Teaching: national recognition
- Teaching: institutional recognition
- Introduction of a novel teaching initiative
- Reputation as an outstanding teaching
- Research: institutional recognition
- Student success in courses (grades)
- Success in research funding
- Research: national recognition
- Excellent student feedback
- Research: international recognition
- Reputation as an accomplished researcher
- Research publications
- Accomplishment of novel research

Value of achievements:

- Education related publications (nRG (+0.6))
- Success in teaching activity funding (nRG (+0.5))
- Teaching: international recognition (nRG (+0.4))
- Teaching: national recognition (nRG (+0.5))
- Teaching: institutional recognition (nRG (+0.5))
- Introduction of a novel teaching initiative (nRG (+0.5))
- Reputation as an outstanding teaching (nRG (+0.5))
- Research: institutional recognition (nRG (+0.2))
- Student success in courses (grades) (nRG (+0.2))
- Success in research funding (nRG (+0.2))
- Research: national recognition (nRG (+0.2))
- Excellent student feedback (nRG (+0.2))
- Research: international recognition (nRG (+0.2))
- Reputation as an accomplished researcher (nRG (+0.2))
- Research publications (nRG (+0.2))
- Accomplishment of novel research (nRG (+0.2))

Note: The values in parentheses represent the percentage increase in value.
value of achievements (research vs. teaching)

- Accomplishment of novel research / teaching
- Research / teaching: institutional recognition
- Success in research / teaching funding
- Research / teaching: national recognition
- Research / teaching: international recognition
- Reputation as an accomp. researcher / teacher
- Research / education publications

[Graph showing bar chart with categories listed above and values ranging from 3 to 7]
other reported valued achievements

• the development and progression of postgraduate students
• industrial relevance / transfer of research work
• international collaborations
• consultancy work
• recognition and reward for administrative responsibilities
• salary increase
• successful public engagement
• the use of one’s research work in lectures (teaching) by others
“Has industry played a role in your work motivation?”

53% - yes (55% male; 47% female)

How?

• research direction, e.g.:
  defining research needs, new ideas and challenges

• funding, e.g.:
  project funding, studentships and consultancy work

• teaching motivation benefits through student industry visits and the identification of real-world problems and cases
learning to manage the different academic roles

- Workshops / training
- Work experience (other)
- Books / websites / guides
- Work experience (industry)
- Work experience (postdoc)
- Academic adviser / mentor
- Other support staff
- Colleagues and peers

RG (+0.3)
summary

- teaching scholarship relatively low in value; greater value to female and nRG faculty indicated
- teaching motivation arises from a genuine care of student progression and the satisfaction gained from student interactions / course delivery
- student feedback an important motivator
- high burden of course assessment and research funding preparation
- benefits in the use of UG students in real research indicated, but awareness level activities dominate
- greater value of industrial collaboration and teaching-research integration in nRG universities
- teaching community (peer support) more important than traditional workshop-based teacher training
recommendations

• formal **institutional** recognition of teaching quality through widespread and regular awards
• teaching and research support for student assessment and research funding preparation
• wider dissemination of examples of **research-enabling** projects and coursework
• greater understanding of the work practices of research-active faculty within teaching-focused institutions