

Recognising and rewarding university teaching achievement

8th March 2017, Chalmers University of Technology

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“*the academic rewards procedures, and their apparent bias towards research, appear to act as a major deterrent to academics engaging with or supporting any program of educational change*”

Royal Academy of Engineering
and MIT report looked at how
engineering schools can
successfully design, implement
and sustain positive

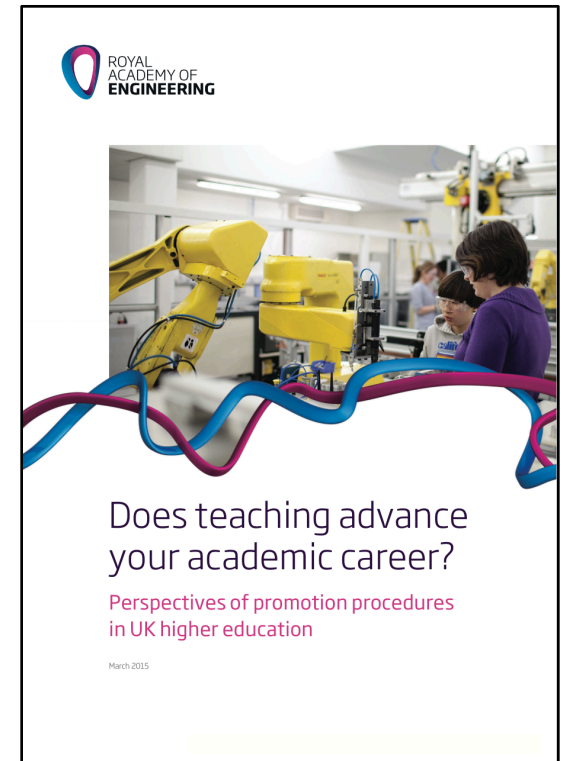


Royal Academy of Engineering (2015)

To what extent are university promotion procedures seen to incentivise teaching achievement in engineering?

Capturing the perceptions and experiences of the role teaching plays in faculty career advancement from various levels of the university hierarchy.

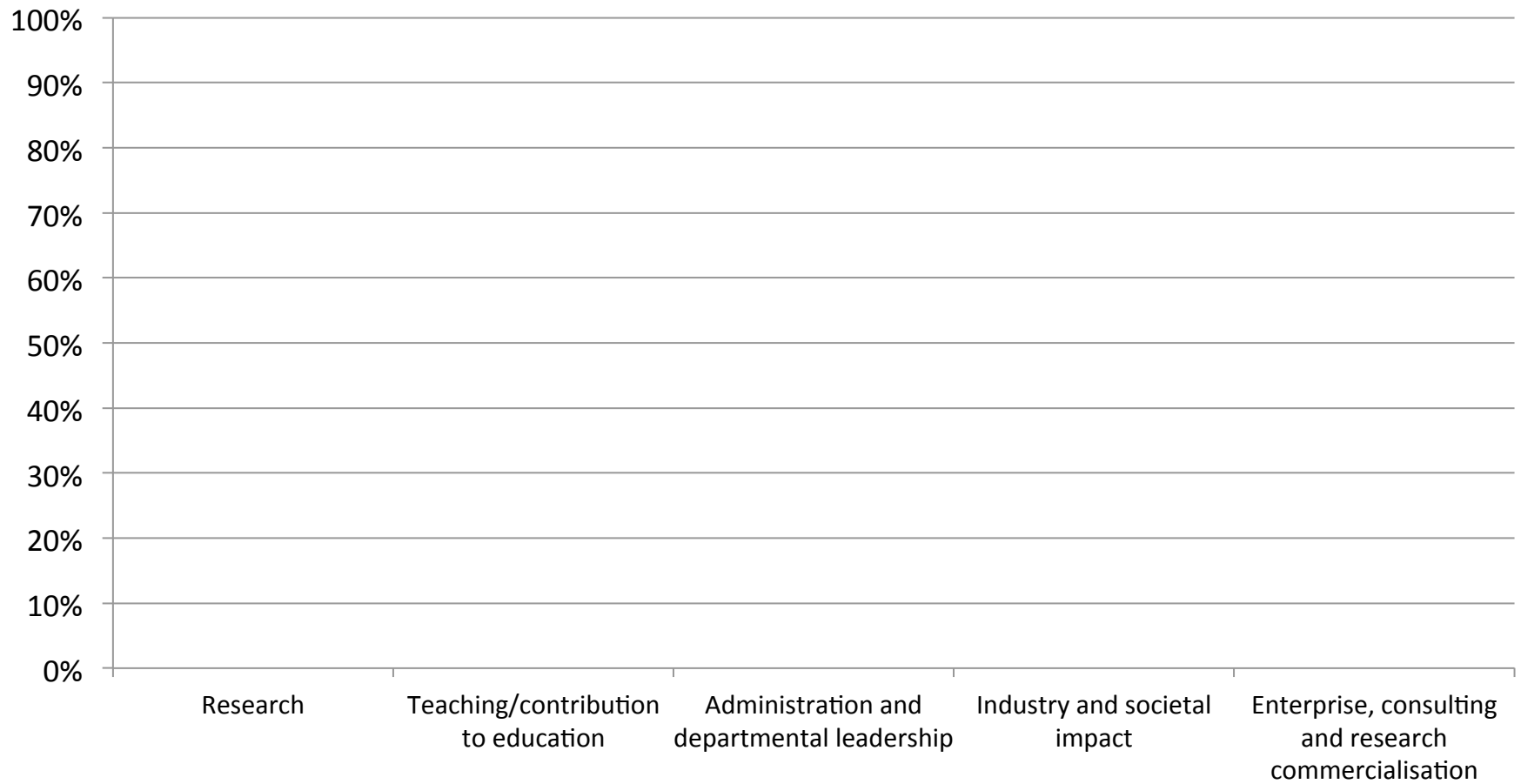
Online survey (n=690) and one-to-one interviews (n=52) with faculty, researchers and senior managers



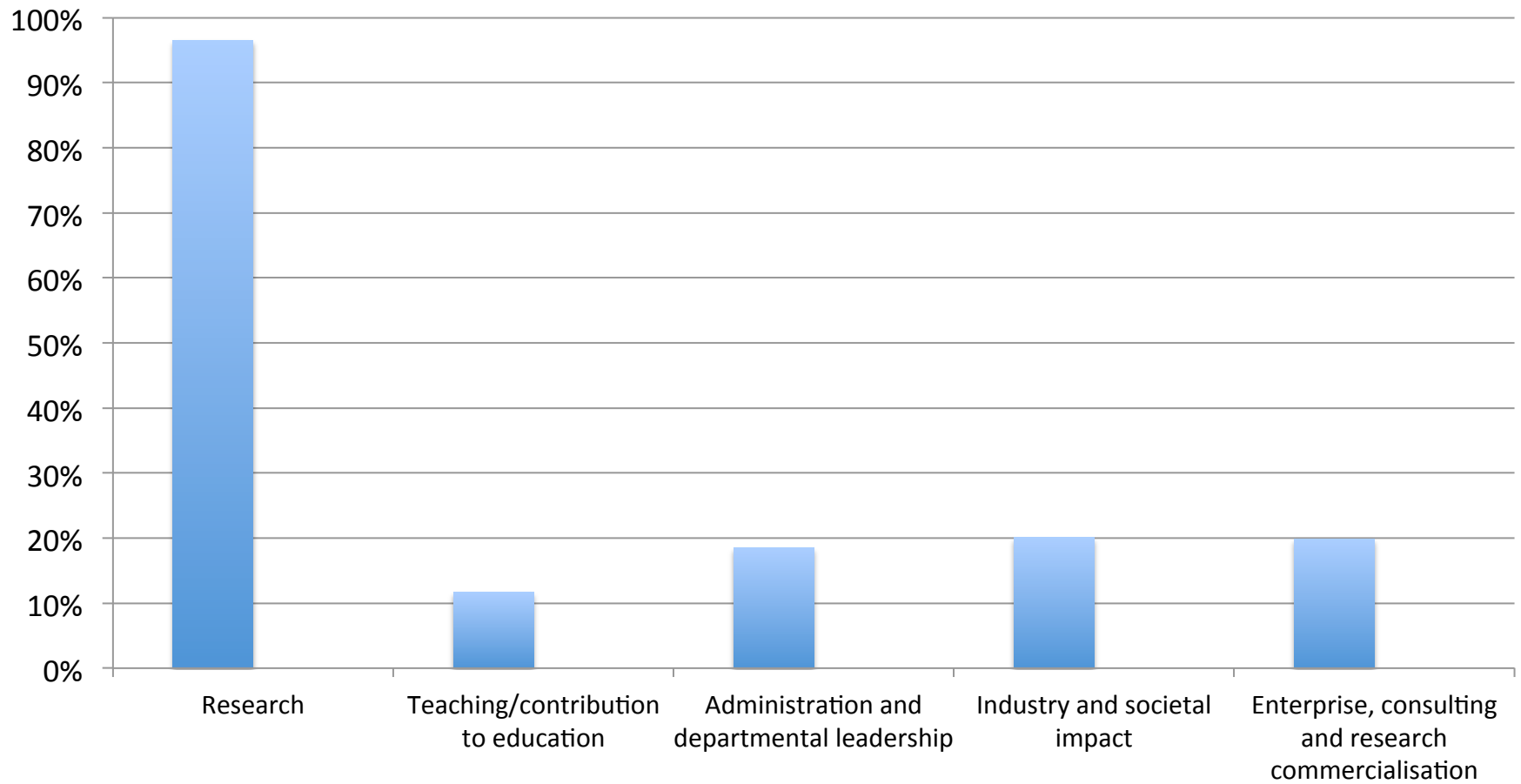
At your institution, how important are the following factors in promotion to full professor?

	Very Important	Somewhat important	Not very important	Don't know
Research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teaching/contribution to education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Administration and departmental leadership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industry and societal impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enterprise, consulting and research commercialisation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

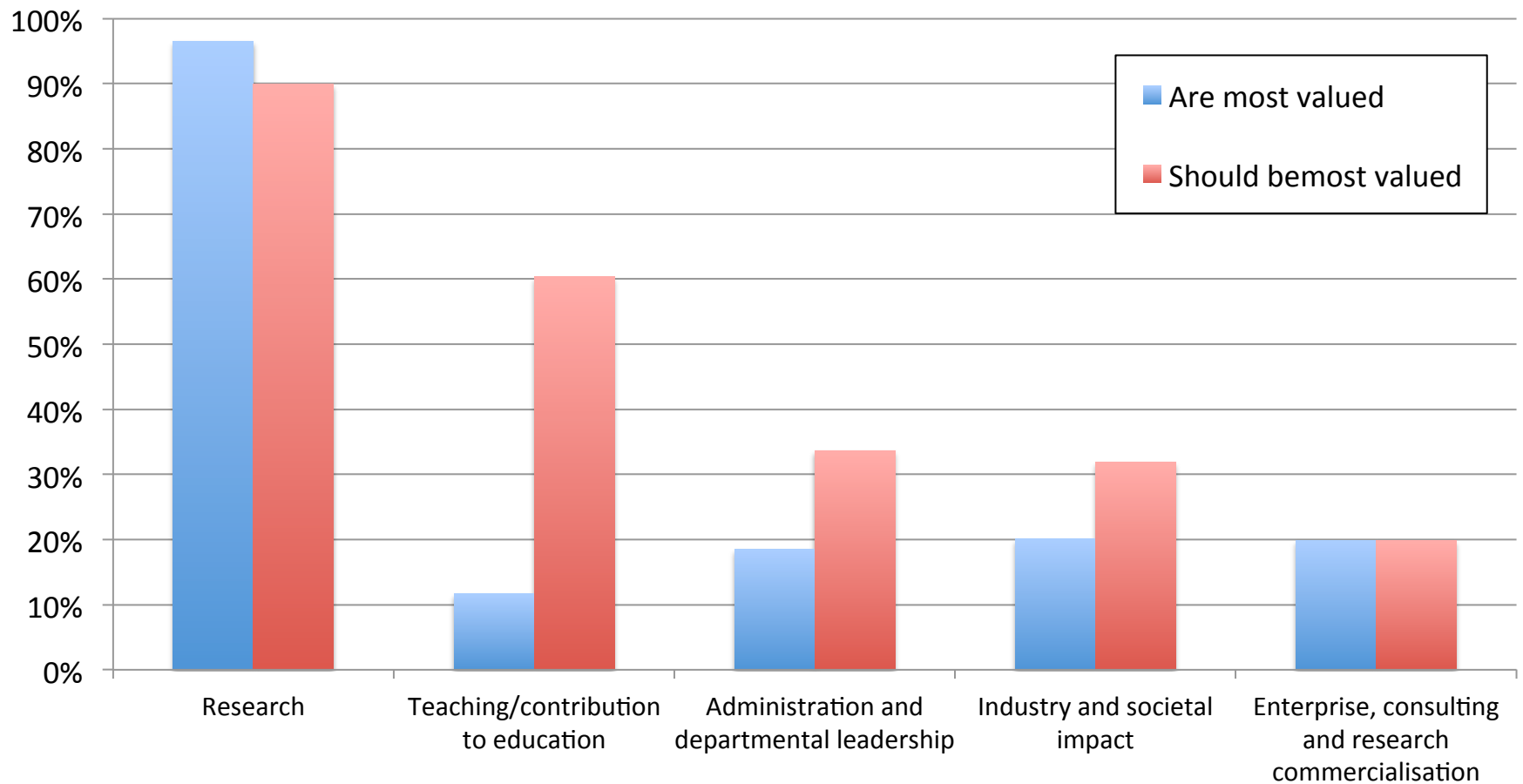
Priority attached to key criteria in promotion to full professorship (n=690)



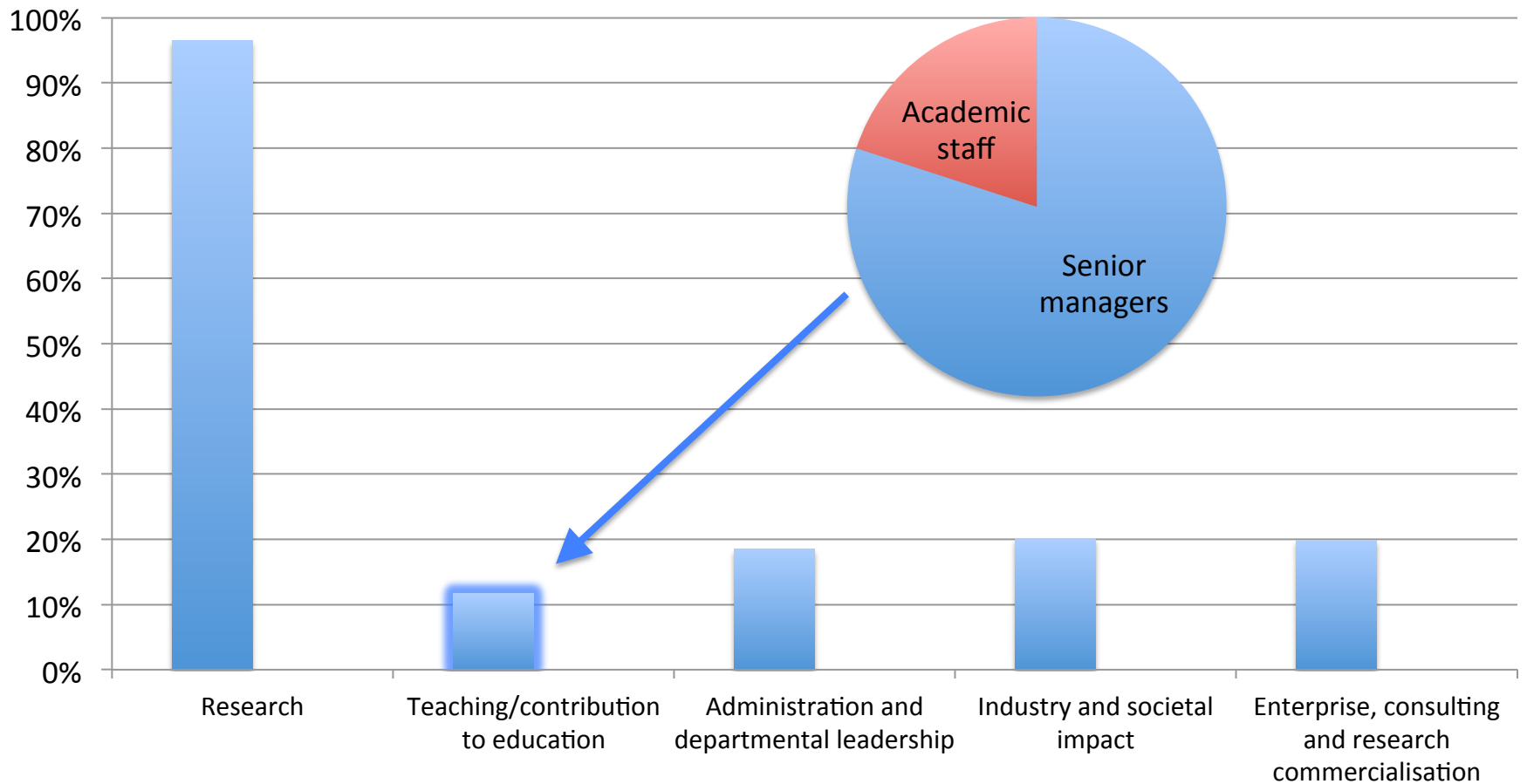
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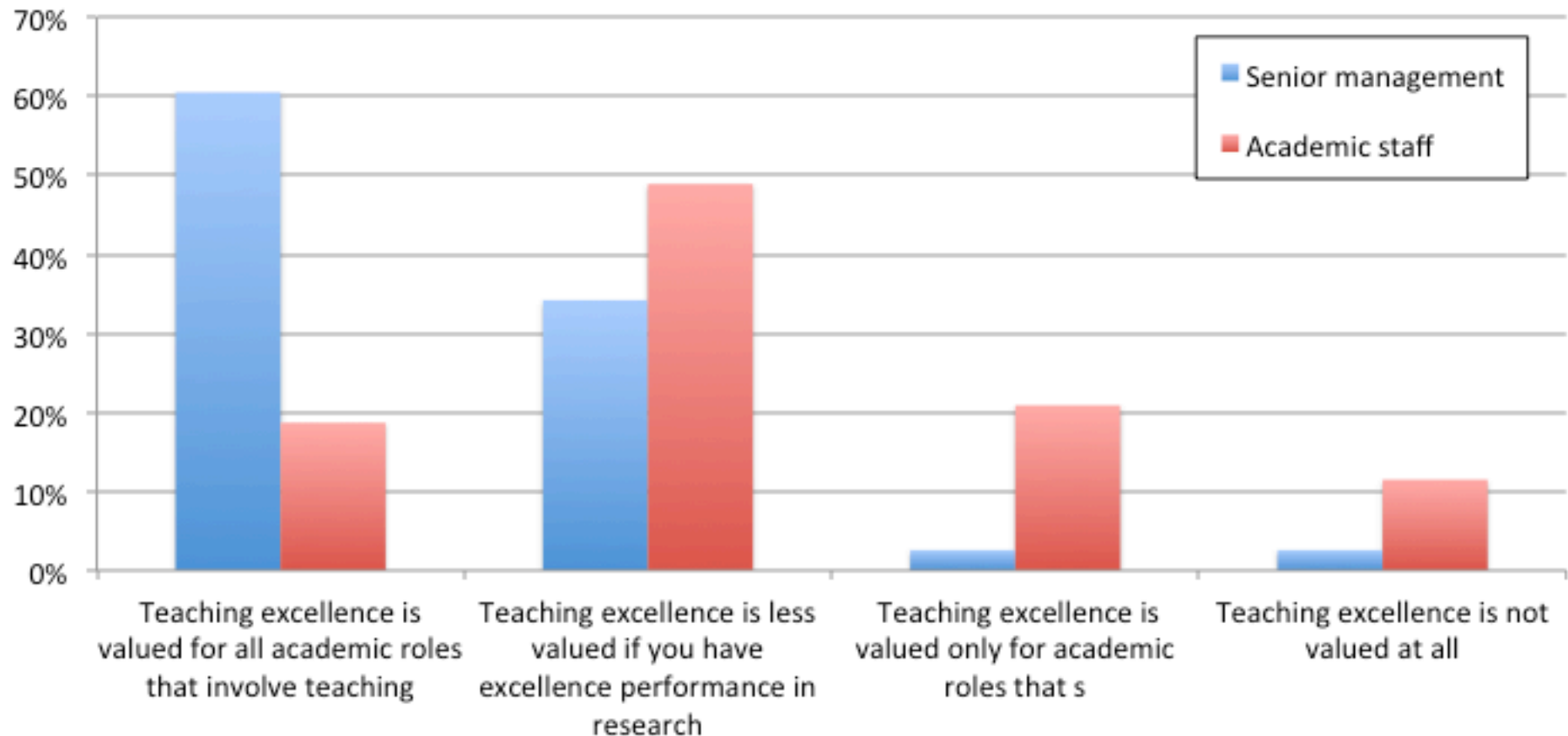
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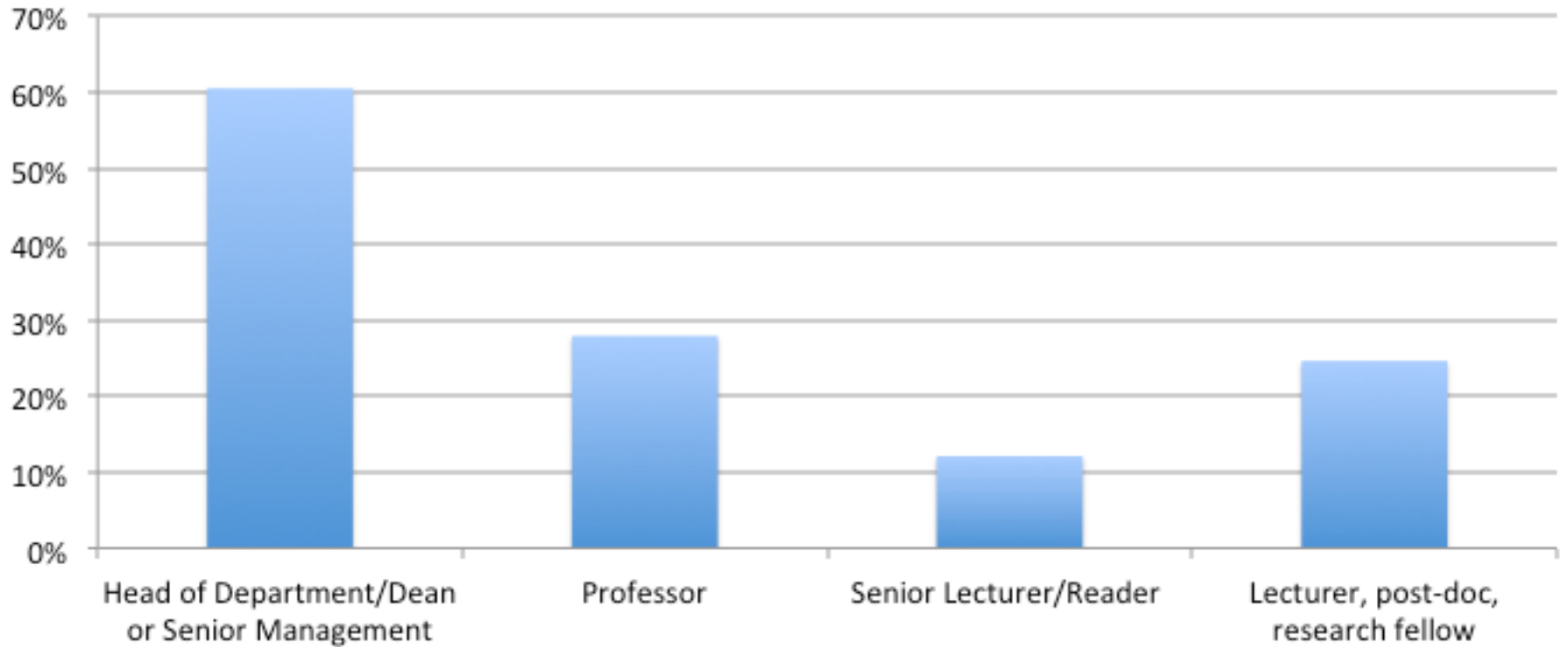
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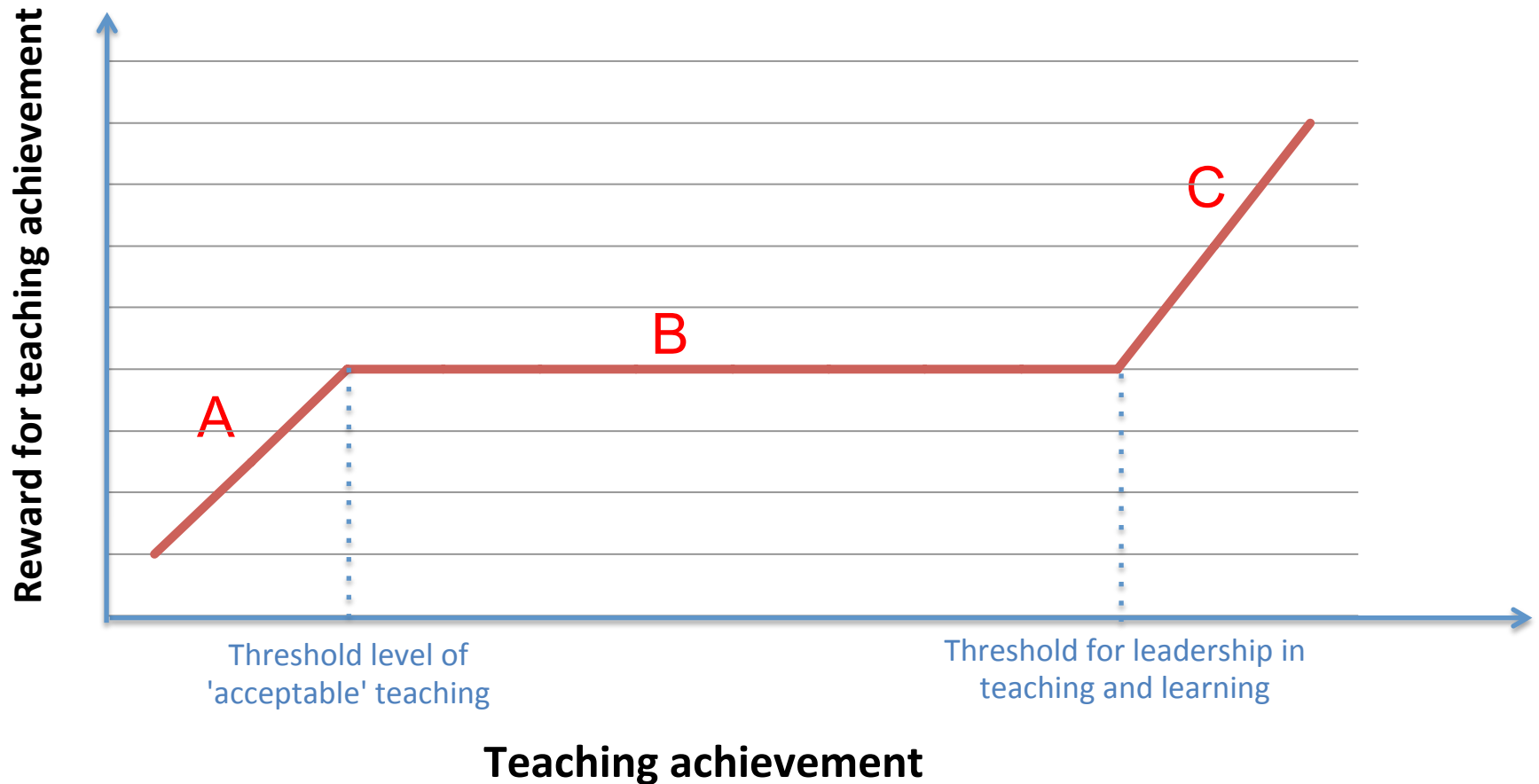
Which statement best reflects the priority given to teaching in promotions procedures at your university?



Teaching excellence is valued for all roles that involve teaching

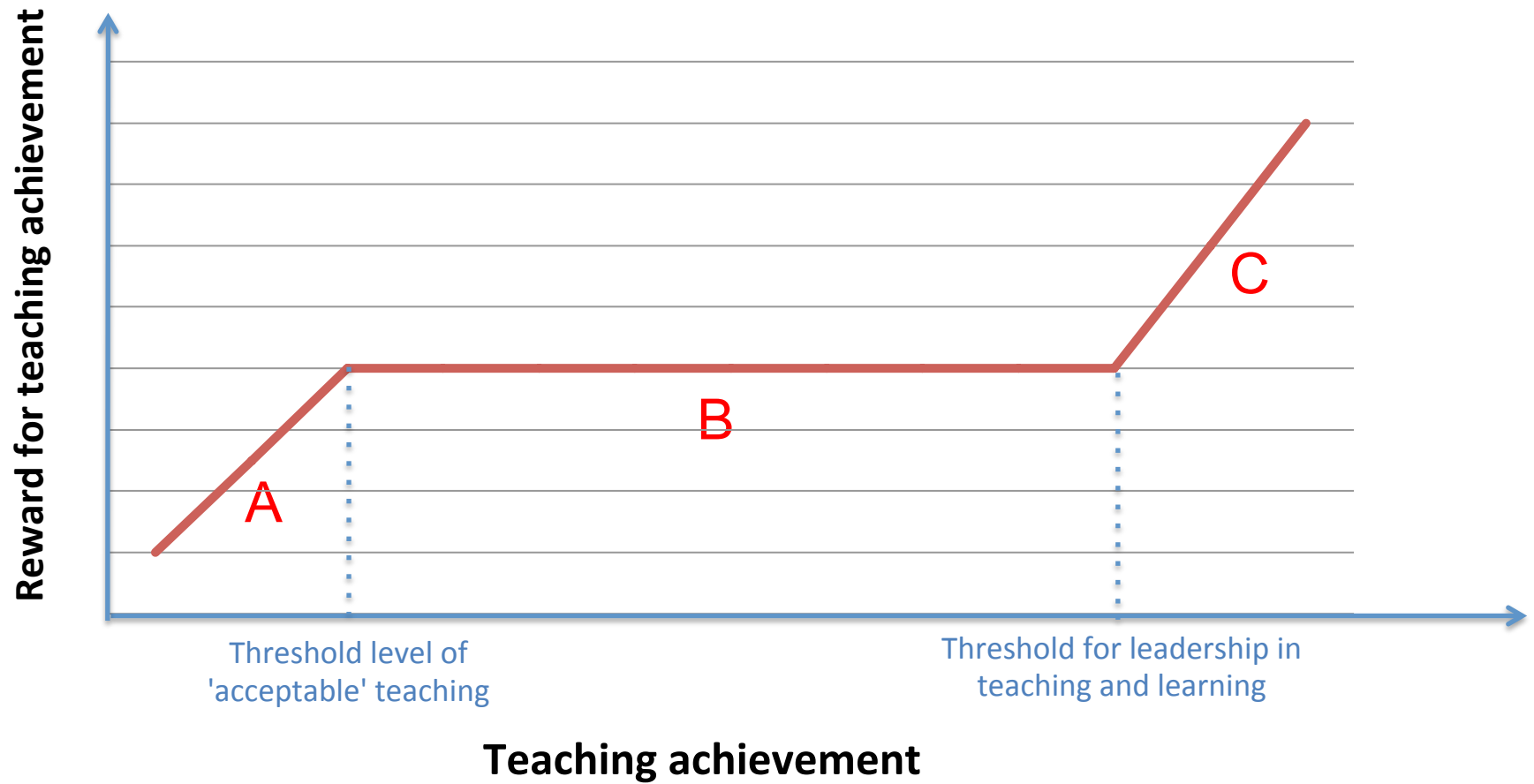


Model for how teaching is currently recognised in universities:



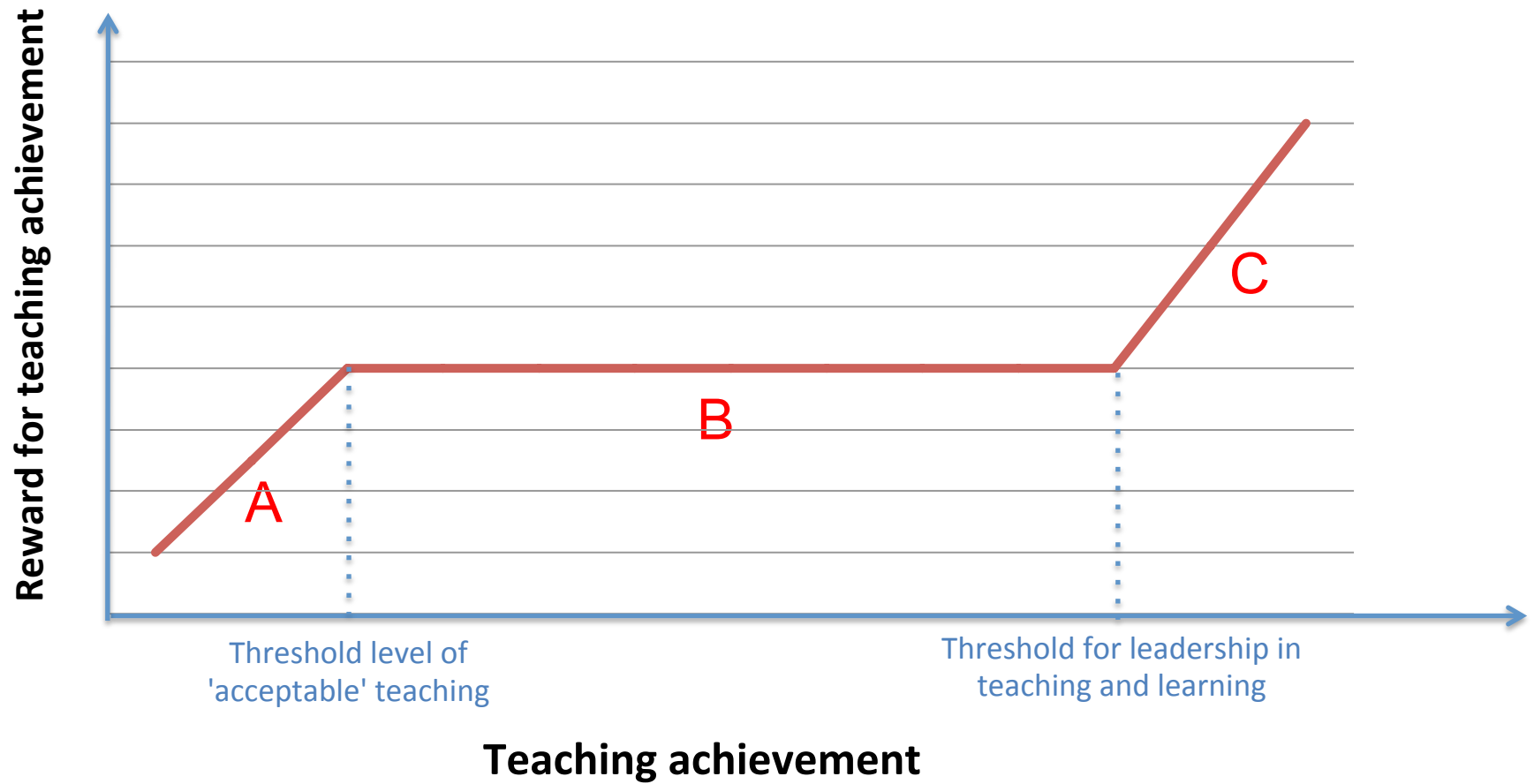
Challenges

- How you do define teaching achievement between A and C – what are the promotion criteria?



Challenges

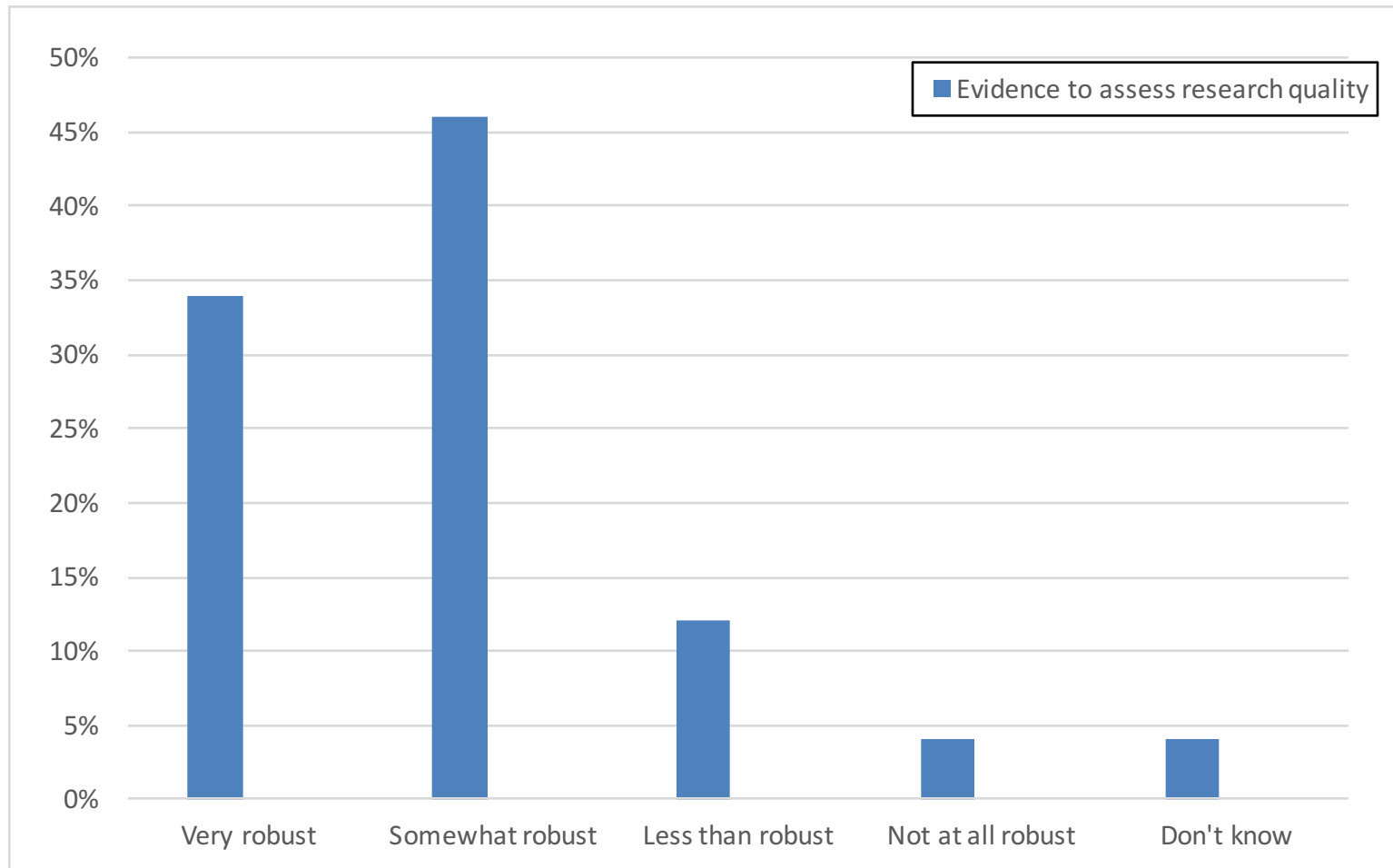
- How you do define teaching achievement between A and C – what are the promotion criteria?
- How do you recognise contribution to educational practice as well as educational scholarship?



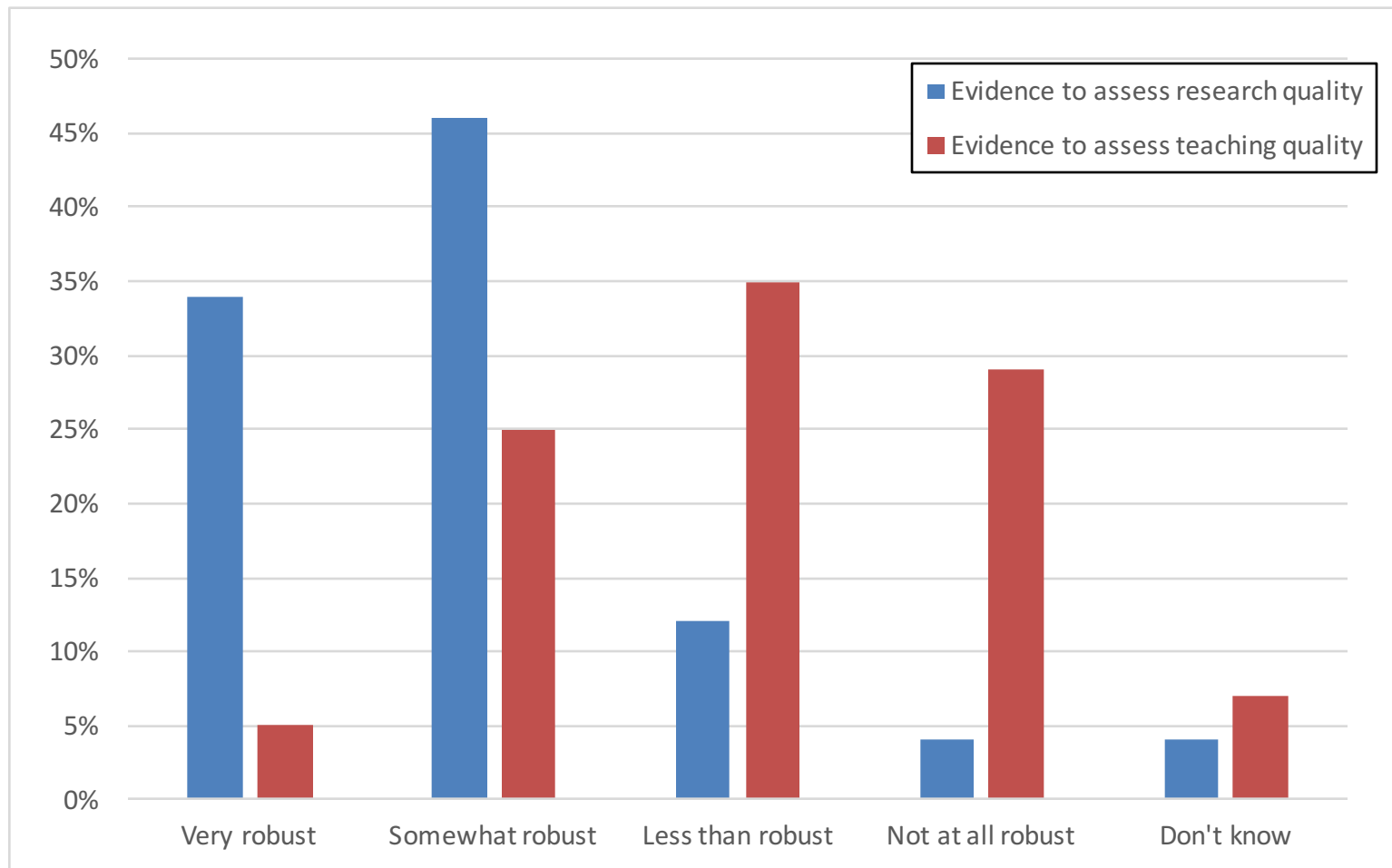
Challenges

- How you do define teaching achievement between A and C – what are the promotion criteria?
- How do you recognise contribution to educational practice as well as educational scholarship?
- What evidence do you use to demonstrate achievement of the criteria?

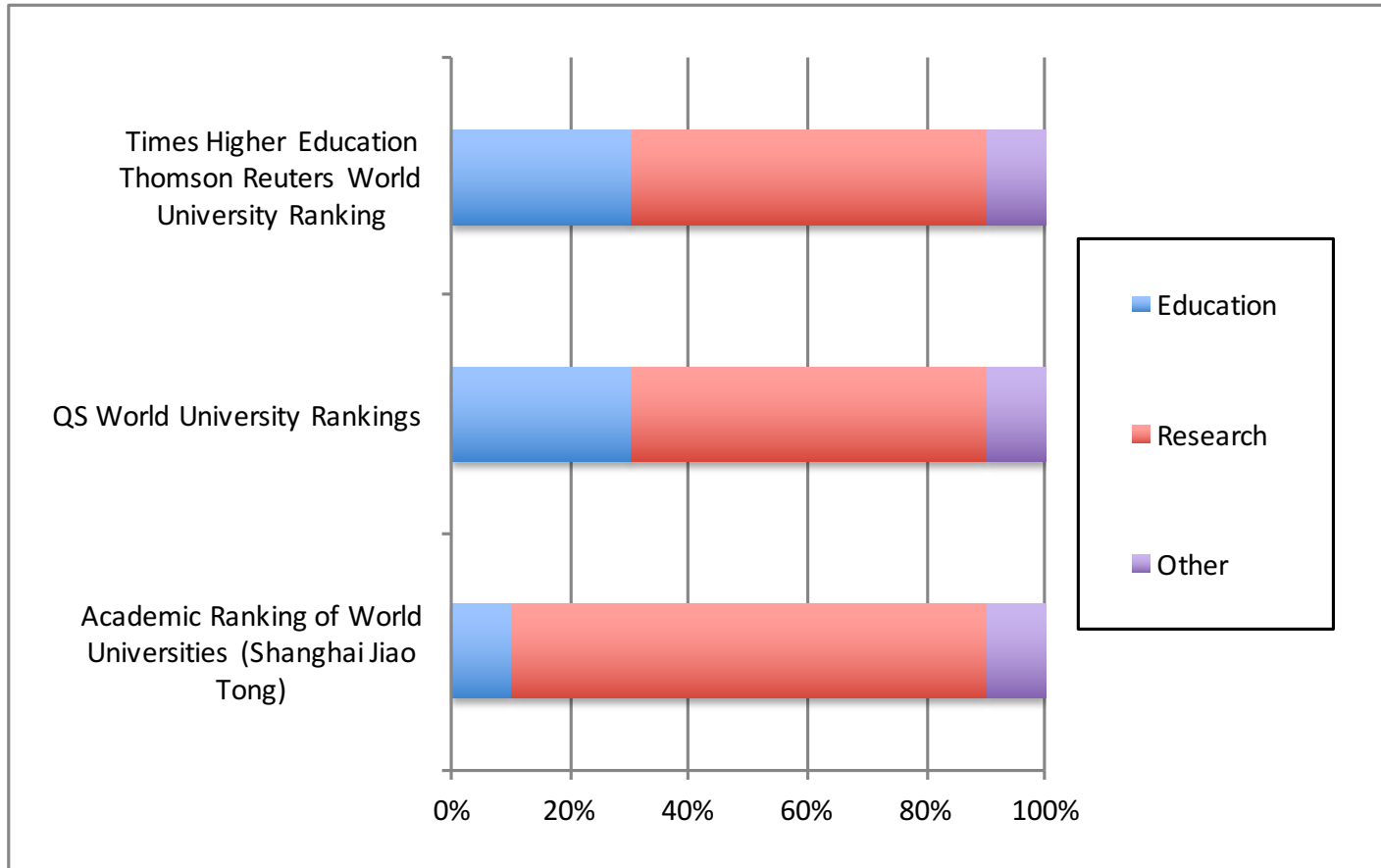
Survey responses to the question “*how robust are sources of evidence used in assessment of research/teaching quality for promotion to professorship?*” (n=690)



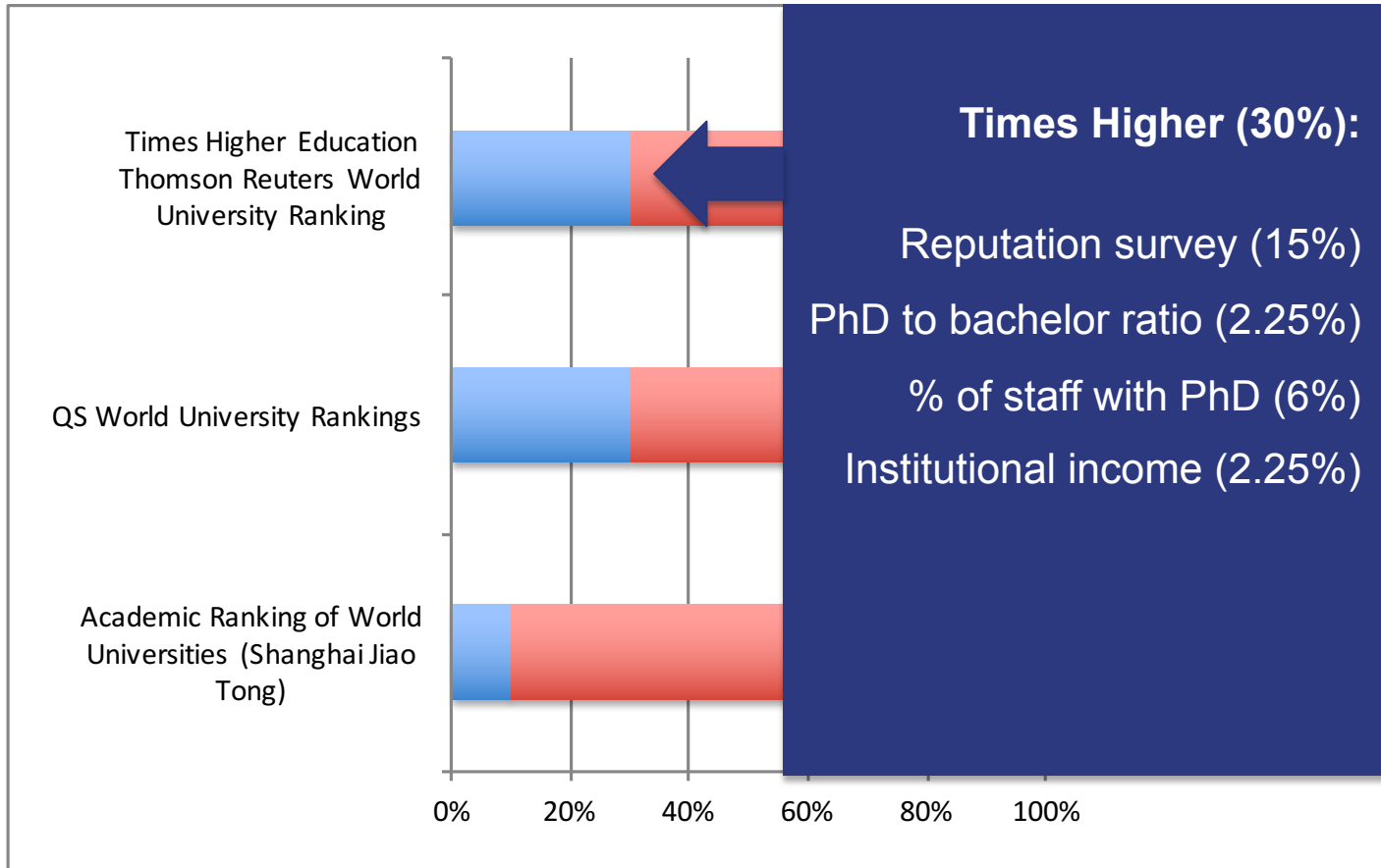
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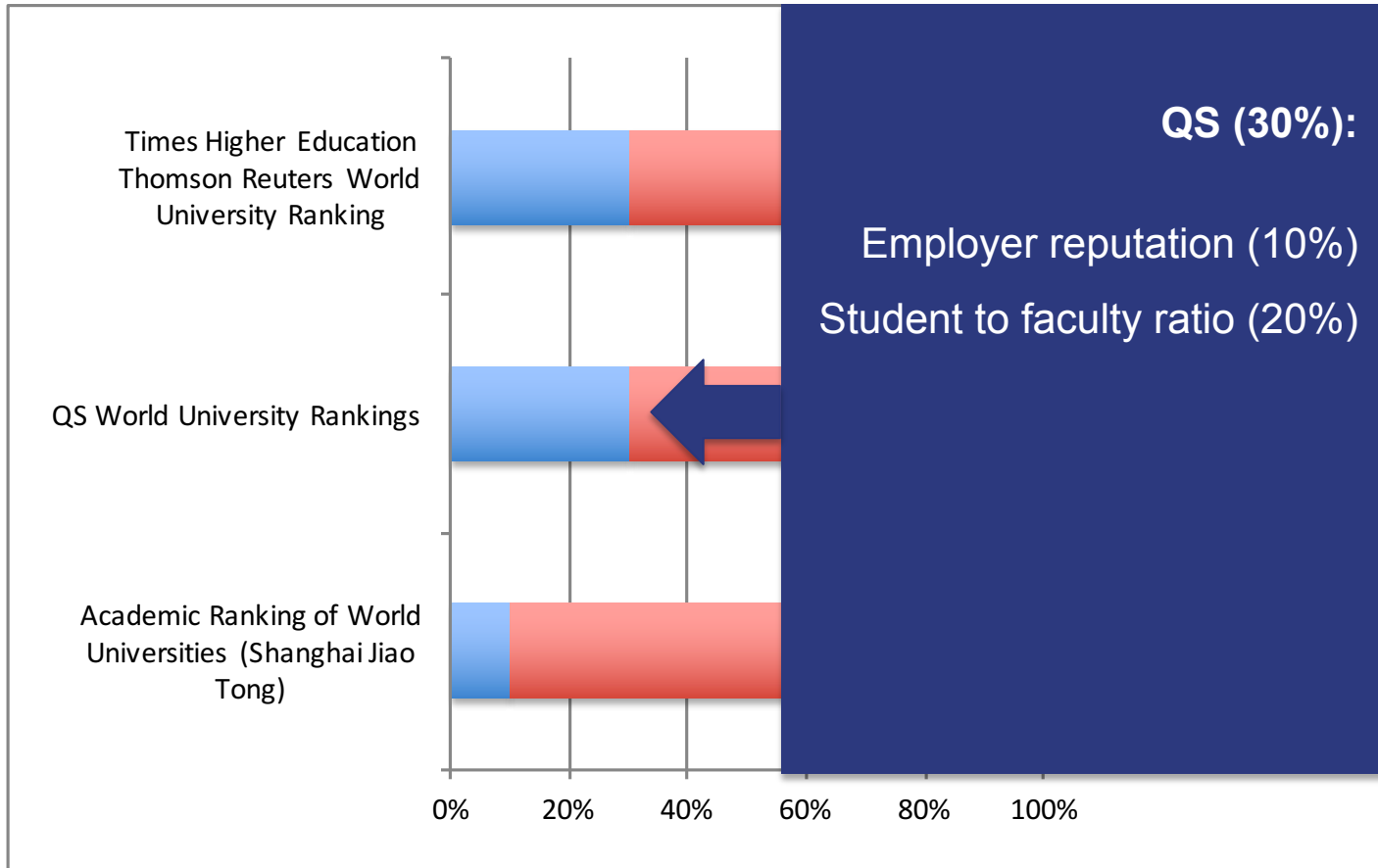
Metrics for the world university rankings



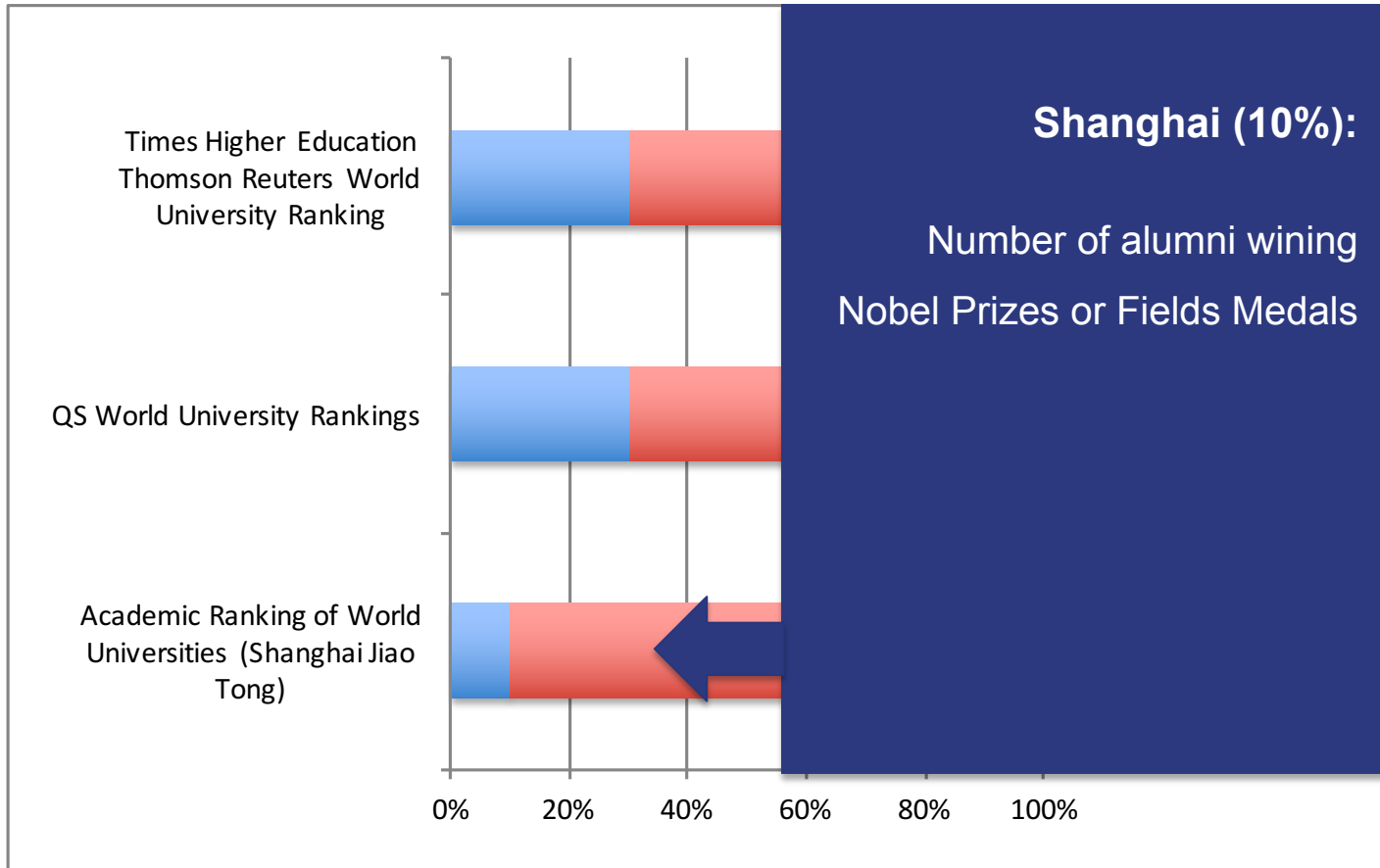
Metrics for the world university rankings



Metrics for the world university rankings



Metrics for the world university rankings



Challenges

- How you do define teaching achievement between A and C – what are the promotion criteria?
- How do you recognise contribution to educational practice as well as educational scholarship?
- What evidence do you use to demonstrate achievement of the criteria?
- How can teaching achievements be ‘portable’ – recognised between universities in an equivalent manner to research achievements?

Career Framework for University Teaching

Launched January 2015

Supported by the Royal Academy of
Engineering

Goal:

to develop a new Framework for the evaluation of teaching achievement during faculty appointment, promotion and professional development that is applicable to all disciplines and all career pathways

Two project stages:

Phase A: Developing a pilot Framework for evaluating teaching achievement, based on feedback from the international academic community, educational research and good practice from across the world (Jan – Sept 2015)

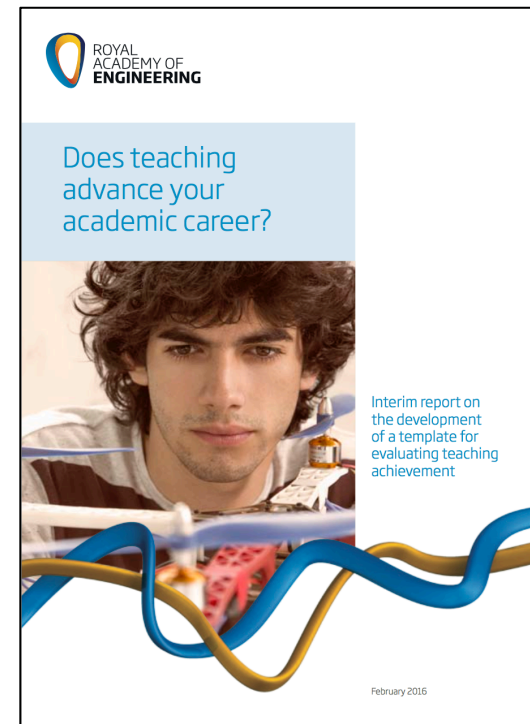
Phase B: Working with partner universities from across the world to evaluate how well the Framework works in practice (Sept 2015 – Sept 2017)

Sources of evidence for Phase A:

- Survey (n=690) and interview data (n>100) from individuals across the world, at a range of levels of the university hierarchy
- Review of the literature on recognising, defining and evaluating university teaching achievement
- Review of best international practice (appointment, promotion, professional development and teaching awards/fellowships)
- Peer review of draft framework by key experts in the field

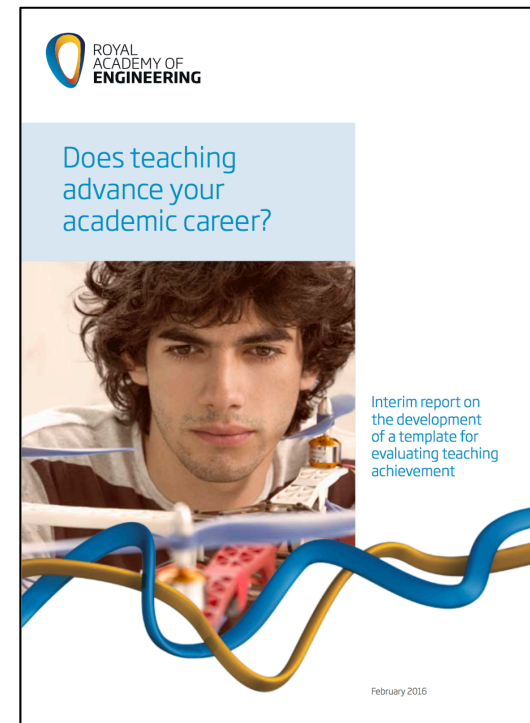
Career Framework for University Teaching:

- 1. General principles**
underpinning progression
- 2. Promotion criteria** that
determine achievement at
each level
- 3. Evidence** to demonstrate
achievement of the criteria

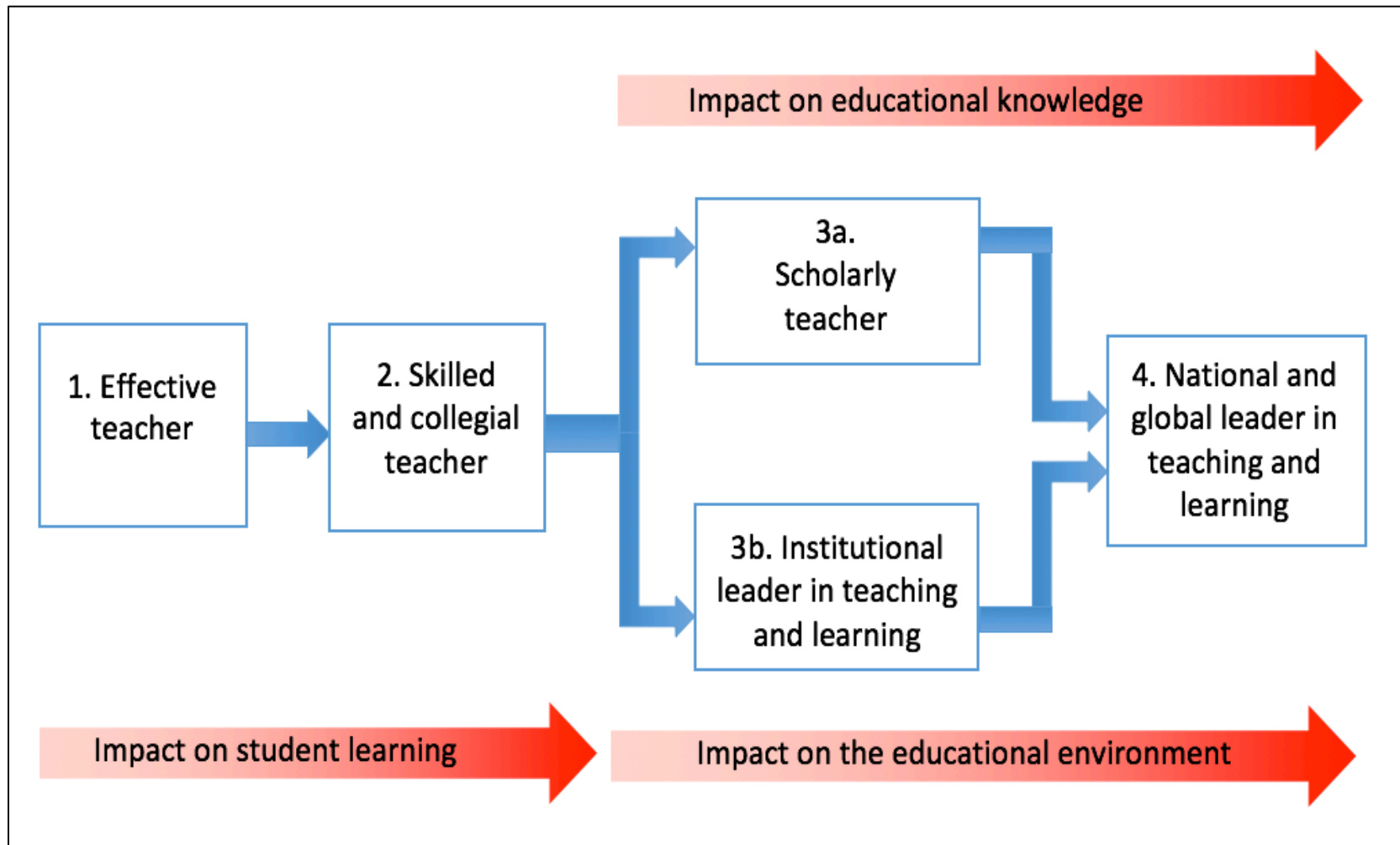


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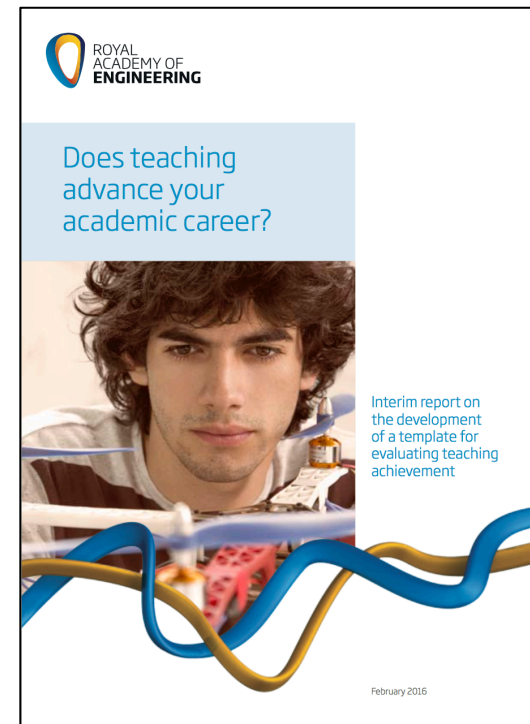


1. General principles



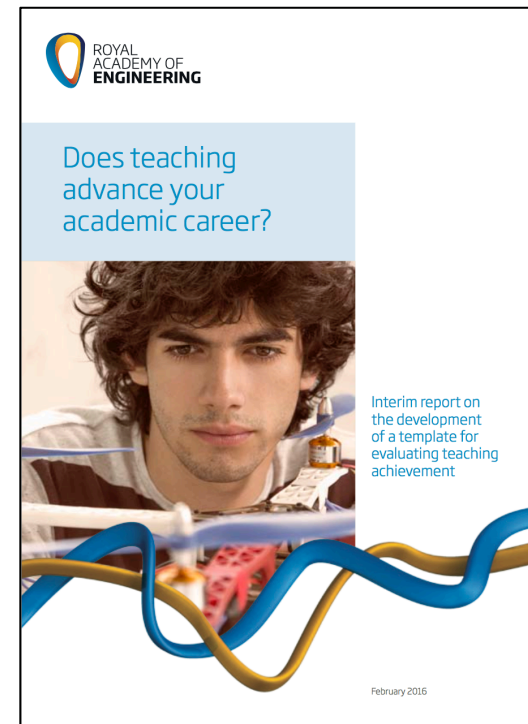
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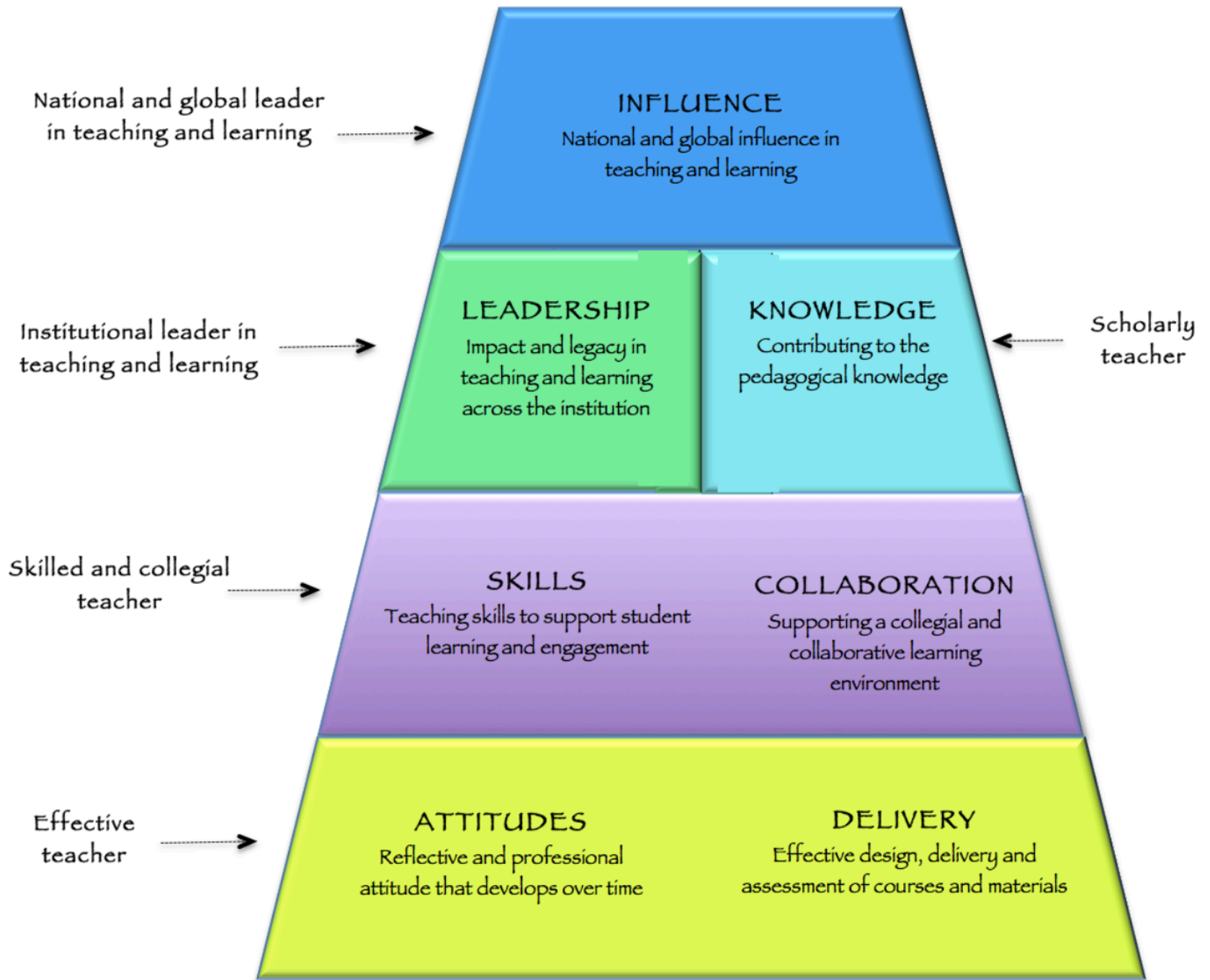
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Career Framework for University Teaching:

1. **General principles**
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2. **Promotion criteria that determine achievement at each level**
3. **Evidence to demonstrate achievement of the criteria**





Skilled and collegial teacher

The skilled and collegial teacher takes an evidence-informed approach to developing and improving their teaching practice over time. They also provide leadership and mentorship to peers to help nurture a collective and collegial culture of excellence in teaching and learning across their group or discipline

Skilled and collegial teacher

Promotion criteria

In addition to the *attitudes* and *delivery* expected of an [effective teacher](#), the successful promotion candidate will demonstrate skilled and collegial teaching through fulfilling some or all of the criteria within two domains:

Skills

Teaching skills that support student learning and engagement:

- ⦿ offers students a holistic view of their programme and discipline
- ⦿ demonstrates skill, experience and creativity with a range of pedagogies
- ⦿ demonstrates the appropriate use of evidence-informed approaches to enhance student learning
- ⦿ delivers successful innovations in course design, delivery and/or content

Collaboration

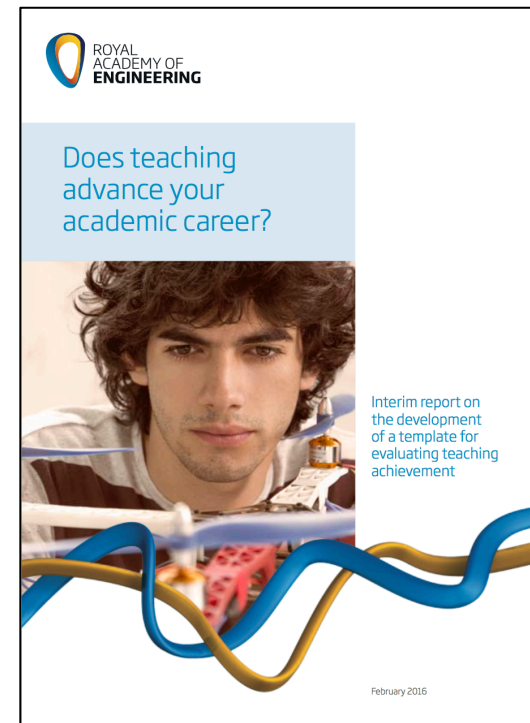
Supporting a collegial and collaborative educational environment:

- ⦿ inspires and supports colleagues to develop and improve their teaching, including through the use of information technologies and module materials
- ⦿ contributes to a collegial and collaborative educational culture across departmental teaching staff, for example, through leadership of peer support activities or support for curricular reform activities
- ⦿ participates in an exchange of teaching experiences and ideas with colleagues and the wider higher education community
- ⦿ proactively monitors the student teaching and learning experience and responds in a timely and professional manner to concerns about course design, context and delivery (at programme, year or module level)

Note: all levels of the framework presuppose subject content knowledge and pedagogical training, including appropriate national/institutional qualifications.

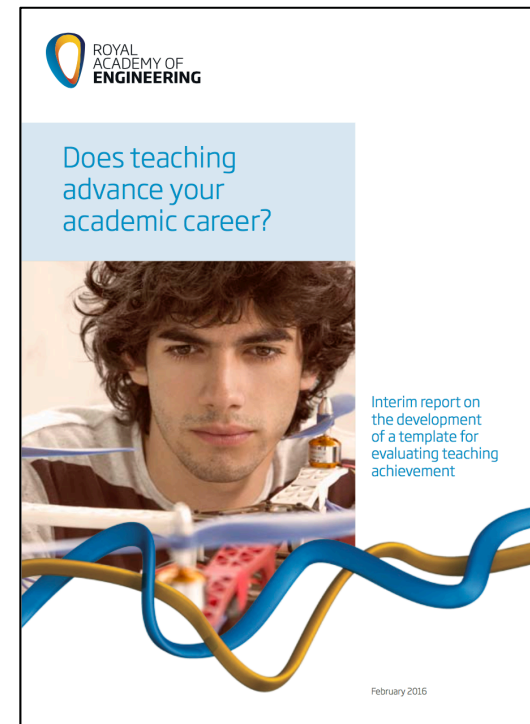
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3. Evidence domains

1. Self-reflection
2. Professional activities
3. Indirect measures of student learning
4. Direct measures of student learning
5. Peer evaluation

Evidence domains:

	Self-assessment	Professional activities	Indirect measures of student learning	Direct measures of student learning	Peer review and recognition
Effective teacher	Reflects on their educational approach and its development over time, identifying how it supports effective student learning in the context of the cohort, discipline and institution	<ul style="list-style-type: none"> Details of courses taught (student numbers, nature of teaching, etc) Student support and guidance activities outside the curriculum Participation in certification and training in teaching and learning Samples of course materials 	<ul style="list-style-type: none"> Student evaluation results and student interview feedback Informal and unsolicited student feedback Pass rates, attrition rates and student progression that can be attributed to specific courses 	<ul style="list-style-type: none"> Examination/assessment results, benchmarked against other cohorts Evaluation of student products, such as final year projects 	<ul style="list-style-type: none"> Peer observation of teaching Peer review of course content, objectives and materials and/or teaching portfolio Review from teaching mentor Letters of reference from: students, alumni, director of studies, head of school and course/programme leaders
Skilled and collegial teacher	Reflects on their personal teaching philosophy and its development over time, as well as the role they play in nurturing an academic environment that advances collective educational excellence	<p><i>Sources listed for Effective teacher, plus:</i></p> <ul style="list-style-type: none"> Mentoring of teaching staff Participation in programmes of educational reform or innovation Institutional committee membership External examiner/trainer Membership of teaching and learning organisation 	<p><i>Sources listed for Effective teacher, plus:</i></p> <ul style="list-style-type: none"> Retrospective assessment by alumni Assessments made by graduate recruiters and employers with respect to specific courses/experiences Student prizes/achievements that can be linked to specific course/programme 	<p><i>Sources listed for Effective teacher, plus:</i></p> <ul style="list-style-type: none"> Student learning journals Concept tests (course level) 	<p><i>Sources listed for Effective teacher, plus:</i></p> <ul style="list-style-type: none"> Letters of reference from: staff mentees, external examiners and collaborators Autorship of widely-used text books Pedagogical conference presentations Institutional and national teaching awards/fellowships/prizes
Scholarly teacher	Reflects on their personal teaching philosophy, describing how evidence-informed approaches are used to contribute to both student learning and pedagogical knowledge	<p><i>Sources listed for Skilled and collegial teacher, plus:</i></p> <ul style="list-style-type: none"> Invited speaker at key events in teaching and learning Visiting/honorary position at other institutions Pedagogical peer reviewer Active member of teaching and learning research group 	<p><i>Sources listed for Skilled and collegial teacher, plus:</i></p> <ul style="list-style-type: none"> Students' self-reported learning gains (course level) Student engagement surveys (course level) 	<p><i>Sources listed for Skilled and collegial teacher</i></p>	<p><i>Sources listed for Skilled and collegial teacher, plus:</i></p> <ul style="list-style-type: none"> Letters of reference from research collaborators Refereed conference and journal publications Research grants and income
Institutional leader in teaching and learning	Reflects on how their leadership in teaching and learning has helped to create an inclusive, supportive and aspirational learning environment that advances student learning	<p><i>Sources listed for Skilled and collegial teacher, plus:</i></p> <ul style="list-style-type: none"> Leadership role in strategic institutional curriculum and/or policy development Design and delivery of high-impact course innovation Leadership of QA or accreditation processes External reviewer/trainer/advisor 	<p><i>Sources listed for Skilled and collegial teacher, plus:</i></p> <ul style="list-style-type: none"> Assessments made by graduate recruiters and employers Students' self-reported learning gains, student engagement surveys (programme or institutional level) Programme pass rates/progression rates 	<p><i>Sources listed for Skilled and collegial teacher, plus:</i></p> <ul style="list-style-type: none"> Concept tests (programme level) Standardised tests (programme level) 	<p><i>Sources listed for Skilled and collegial teacher, plus:</i></p> <ul style="list-style-type: none"> Letters of reference from senior university managers, external collaborators and those who have taken inspiration from the candidate's educational approaches Reports from collaborators, external impact reports/case studies
National and global leader in teaching and learning	Reflects on their national and global influence in teaching and learning, and their impact on advancing educational knowledge, collaboration and/or excellence	<p><i>Sources listed for Institutional leader in teaching and learning, plus:</i></p> <ul style="list-style-type: none"> Participation in government consultation committees Invited speaker at national/global events in teaching and learning Participation in and leadership of high-impact national and global educational programmes 	<p><i>Sources listed for Institutional leader in teaching and learning, plus:</i></p> <ul style="list-style-type: none"> Institutional surveys of student perception or experience Programme/institutional pass rates/progression rates 	<p><i>Sources listed for Institutional leader in teaching and learning, plus:</i></p> <ul style="list-style-type: none"> Standardised tests (institutional level) 	<p><i>Sources listed for Institutional leader in teaching and learning, plus:</i></p> <ul style="list-style-type: none"> Publications, citations, research grants and income National and global press coverage National/global awards and prizes

Evidence domains:

Approach

	Self-assessment	Professional activities
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Impact

	Indirect measures of student learning	Direct measures of student learning	Peer review and recognition
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Evidence case studies:

Case study

Dr Jonathan Adler, Olin College of Engineering, US



In his 2015 promotion case to Associate Professor at Olin College of Engineering (US), Dr Jonathan Adler included a letter from a former student who had transferred to another university to complete his studies elsewhere. The letter described the significant role of the counseling role Dr Adler played in supporting the student's reappraisal of interests, motivations and career ambitions.

The process of reappraisal led to the student deciding to leave and pursue a course of study at a university that, unlike Olin College, was not engineering-focused. Dr Adler explained, *"I imagine it is quite unusual to include students who transfer out of one's university in one's promotion materials, as these students are so often seen as failures of the institution, given the importance of student retention. But at Olin, one of the key domains in which faculty are assessed is 'developing students.' I saw this as a clear example of my work to help a student develop to his full potential, even though it involved leaving Olin to do so. The student transferred to a highly-selective liberal arts college and is now working on a PhD at Harvard, so I look back on our advising sessions over the course of his one year at Olin as a success and wanted to include this perspective in my promotion dossier."*

Case study

Professor Janne Jarmer, Technical University of Denmark (DTU)



Associate Professor Hanne Jarmer was appointed to Head of the Department of Systems Biology at DTU in 2014. She brought a new research focus in advanced bioinformatics and a history of systemic educational reform and leadership in teaching and learning at both departmental and institutional levels.

Within her case for promotion to Department Head, Dr Jarmer listed a number of her research activities in teaching and learning, including her teaching responsibilities and activities as Head of Education for her department. However, she acknowledged that the educational activities that she felt to have had the most profoundly positive impact on her department were her leadership role in *"bringing the coursera [online learning] program to DTU – I went above the department. I wore the DTU hat rather than only the Systems Biology hat. It was something that benefitted the whole university. I contacted the coursera founders and argued for their use at DTU on the platform and they invited us in"*. Dr Jarmer's case listed her role in establishing the university's coursera agreement, making way for the first coursera course in Scandinavia, as well as supporting its delivery and joining the coursera-DTU steering committee.

Case study

Professor Craig Forest, Georgia Institute of Technology, US



In 2015, Dr Forest submitted a successful case for promotion to Associate Professorship at Georgia Tech. Of the five 'noteworthy accomplishments' listed in his application, four related to research achievements within his field of biomolecular science and one related to achievements in education. Dr Forest noted that, as an academic following a tenure track in a research-led institution, the decision to include an educational component in his promotion case was carefully considered.

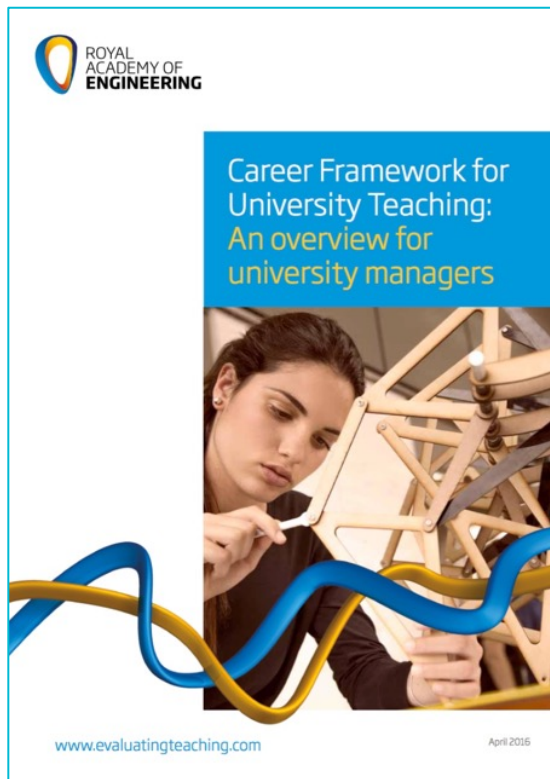
A wide range of evidence sources was used to demonstrate Forest's institutional impact and influence in teaching and learning, including:

- **Professional activities:** the educational portion of the promotion case centred on a description of three activities: (i) the co-founding of the 'Invention Prize', a university invention competition, (ii) the establishment of the 'Invention Studio', an open-access space for students to engage in innovation and design, and (iii) the redesign of an engineering capstone design course.
- **Peer assessments:** including national press coverage of the educational activities developed by Dr Forest, a peer-reviewed pedagogical publication and details of the funds raised for the establishment of the 'Invention Studio'.
- **Indirect measures of student learning:** including statistics on the number of companies founded by students engaged in the entrepreneurial and leadership activities established by Dr Forest.
- **Direct measures of student learning:** including an evaluation of the quality of student projects from the multi-disciplinary final year design course established by Dr Forest, as described below.

Building on an existing capstone design experience within the engineering school – where teams of students from a single discipline were tasked to solve authentic industry problems – Dr Forest led the creation of a new multi-disciplinary capstone experience, bringing together mechanical and biomedical engineering students to work together on these 'real world' problems. Based on the scores allocated by a judging panel of industry partners, an evaluation was conducted of the quality of student projects developed by these multi-disciplinary teams compared to that of their mono-disciplinary peers. The evaluation (Hotaling et al., 2012) concluded that *"the [multi-disciplinary] teams' holistic performance in innovation, utility, analysis, proof of concept, and communications skills was superior to that of the mono-disciplinary counterparts"*.

Hotaling, N., Fasse, B. B., Bost, L. F., Hermann, C. D., & Forest, C. R. (2012). A quantitative analysis of the effects of a multidisciplinary engineering capstone design course. *Journal of Engineering Education*, 101(4), 630-656. [\[link\]](#)

Career Framework for University Teaching:



The image is a screenshot of the website "Evaluating teaching: Career Framework for University Teaching". The page has a clean, white background with a navigation menu at the top containing links for "Home", "About", "Principles", "Promotion criteria", "Evidence", "Resources", and "Next steps". Below the navigation is a horizontal strip of seven small images showing various university scenes. The main content area features a paragraph explaining the website's purpose: "This website provides a framework for evaluating university teaching achievement during academic appointment, promotion and appraisal. Targeted for application in all academic career pathways, the framework is designed for use across all disciplinary, institutional and geographic contexts. The framework comprises three key elements:". Below this paragraph are three columns, each with a red icon and a heading: "Principles" (with a red gear icon), "Promotion criteria" (with a red flag icon), and "Evidence" (with a red paperclip icon). Each column contains a brief description of its respective element.

Evaluating teaching

Career Framework for University Teaching

Home About Principles Promotion criteria Evidence Resources Next steps

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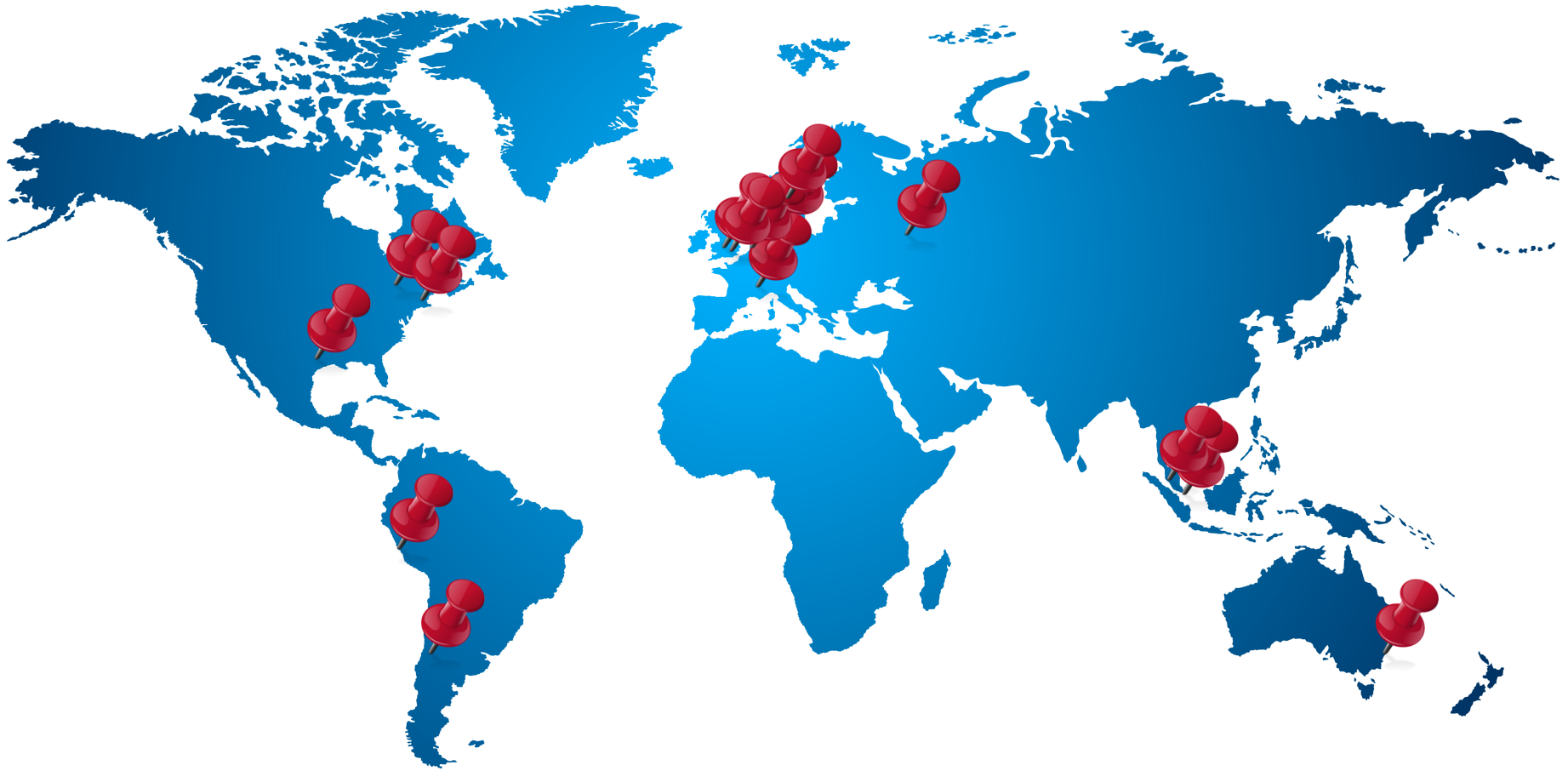
- Principles**
The broad routes to professional development and career progression on the basis of university teaching and learning
- Promotion criteria**
The criteria underpinning progression to each of the four levels of teaching achievement defined in the framework
- Evidence**
Guidance on the types of evidence that academics could use to demonstrate their achievements in university teaching and learning

www.evaluatingteaching.com

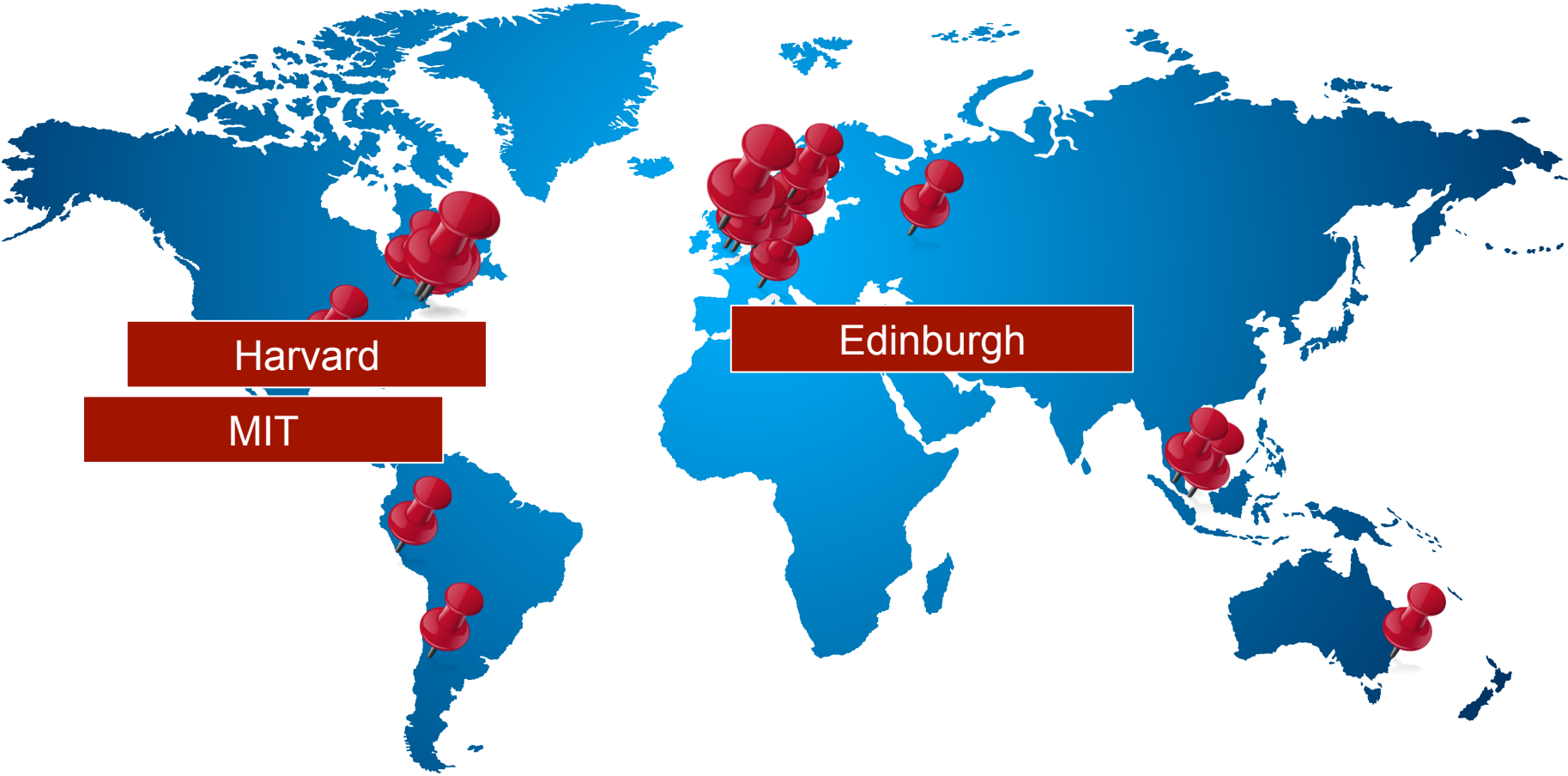
Phase B of the study:

How well does the framework
work in practice....?

16 university partners:



Institutions offering review:



Harvard

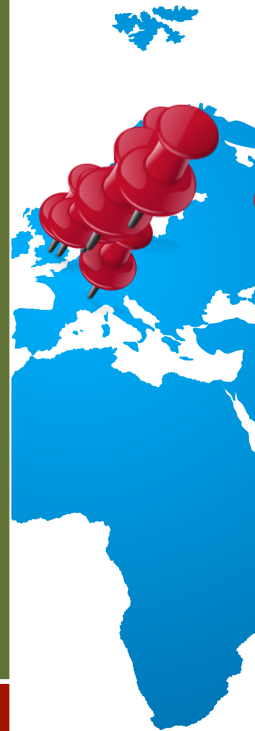
MIT

Edinburgh

Institutions conducting pilots:

- Two Faculties – Electrical Engineering Mathematics and Computer Science and Geo-Information Science & Earth Observation – are currently piloting changes to the appointment and promotion system guided by the Framework
- A new Senior Teaching Qualification is being developed to support continuing professional development; the design is also guided by the Framework

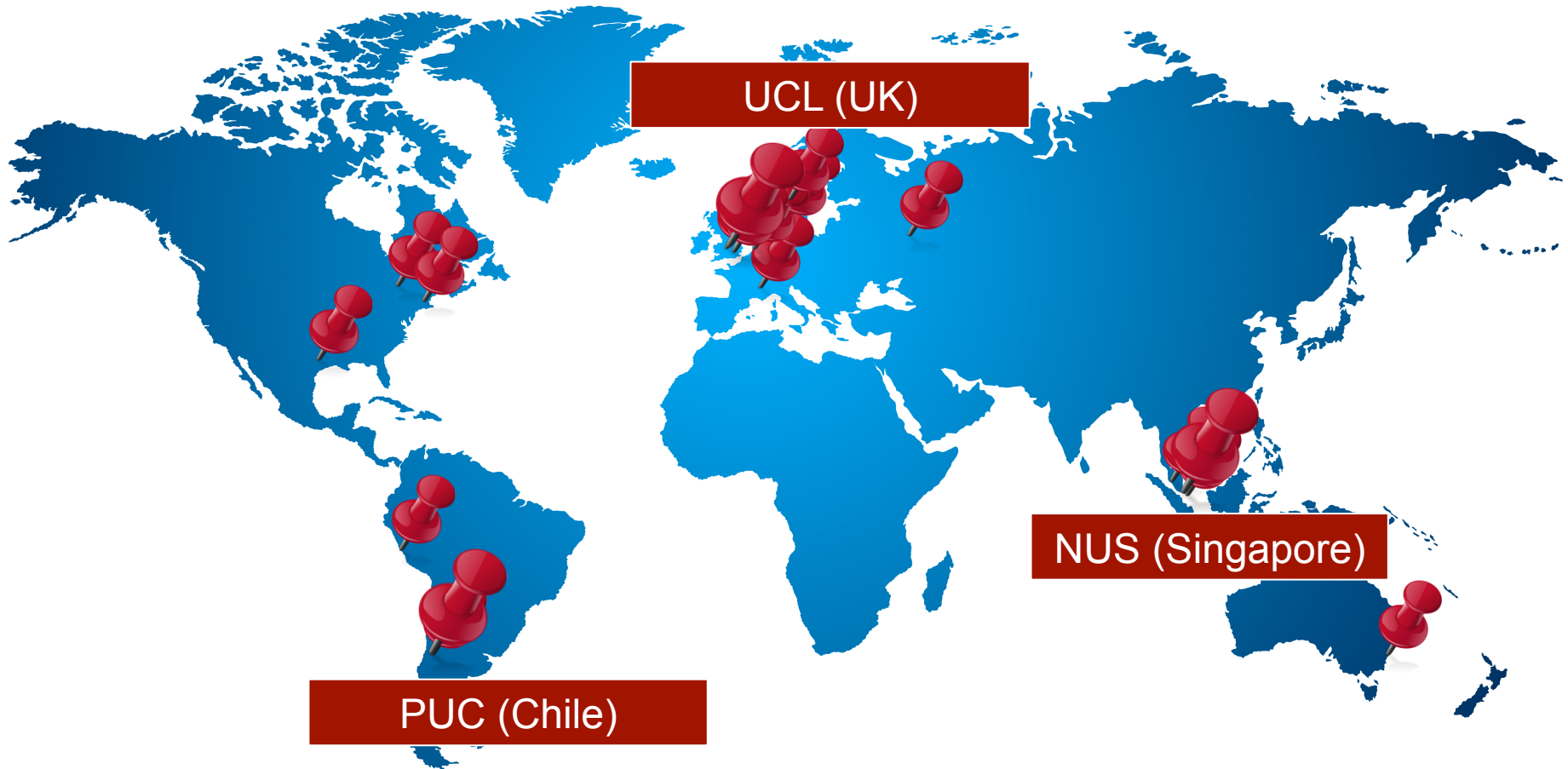
University of Twente



The Technical University of Denmark (DTU) is currently piloting the Framework within three of its departments: Computing and Mathematics, Nanotechnology, and Centre of Bachelor Engineering Studies. Starting in January 2016, the Framework has been used to both prepare and assess all appointment and promotion applications for shortlisted candidates in these departments.

DTU

Reform of promotion criteria:



National approaches:

- From 2018, the Dutch government will make additional investments in university teaching, including new faculty appointments and a new national education bursary scheme
- The Framework will inform these changes to structure and guide a national definition of teaching quality

Netherlands

- The Malaysian government is seeking to establish a unified national career structure for university faculty, with common criteria and achievement levels for advancement
- The University of Technology Malaysia is developing and piloting these changes, using the Framework to design the 'teaching' element of the academic career progression

Malaysia



Next steps:


1. Meeting of university partners in London (28th April 2017)
2. Gathering feedback from partner institutions and documenting case studies of reform
3. Updating the structure and design of the framework
4. Launching the final framework in autumn 2017

Further information:




Evaluating teaching

Career Framework for University Teaching

[Home](#) [About](#) [Principles](#) [Promotion criteria](#) [Evidence](#) [Resources](#) [Next steps](#)



This website provides a framework for evaluating university teaching achievement during academic appointment, promotion and appraisal. Targeted for application in all academic career pathways, the framework is designed for use across all disciplinary, institutional and geographic contexts. The framework comprises three key elements:

 Principles	 Promotion criteria	 Evidence
The broad routes to professional development and career progression on the basis of university teaching and learning	The criteria underpinning progression to each of the four levels of teaching achievement defined in the framework	Guidance on the types of evidence that academics could use to demonstrate their achievements in university teaching and learning

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