Hong Kong RAE 2020: Perspective from a department hosting two healthcare disciplines

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For HUCBMS Conference 2019, Dublin, Ireland; 3-4 September 2019.
University Grants Committee (UGC)

The non-statutory body that advises the Hong Kong Government on the funding and strategic development of higher education in Hong Kong

UGC’s roles & functions:

- **Oversee the deployment of funds** for the strategic development of the higher education sector
- **support the continuous development of the higher education sector** to achieve greater impact and recognition
- **give steering advice to the higher education sector from a system perspective** and facilitate institutions to fulfill their distinctive roles
- **facilitate the sustainable development of higher education** to meet the demands of the changing times
- ......

- There are 8 UGC-funded universities in Hong Kong
  - PolyU is one of them
Research Assessment Exercise (RAE)

- Part of UGC’s commitment to **assessing the performance of the UGC-funded universities**
- Intended to encourage world-class research and drive excellence
- **Assesses the research quality** of the UGC-funded universities by **using international benchmarks** to delineate their areas of relative strength and make recommendations for further improvements

**Next RAE:**
- To be conducted in 2020 (**RAE 2020**)
- The first RAE that includes **research impact** as part of the assessment with a view to encouraging the conduct of research of broader social relevance with high economic and social benefits
- Similar to UK’s **REF 2014**
RAE 2020

Objectives:

- Assess the research quality of UGC-funded universities by international standards
- Identify excellent research across the spectrum of submissions to drive excellence and encourage world-class research
- Produce assessment outcomes to inform the distribution of part of the Research Portion of the UGC Block Grant in a publicly accountable manner
- Provide accountability for public investment in research and produce evidence of the benefits of this investment
- Provide robust benchmarking information and establish reputational yardsticks for use within the UGC section and for public information
- Delineate universities’ areas of relative strength and identify emerging research areas and opportunities for development
**RAE 2020**

**Elements of assessment & relative weightings:**
- Research outputs – 70%
- Impact – 15% (new in RAE 2020)
- Environment – 15%

**Period of assessment:**
- 6 years (1 October 2013 to 30 September 2019)
- For Impact, the underpinning research can be undertaken during the period of 1 January 2000 to 30 September 2019 (20 years)
**RAE 2020**

- **13 panels incorporating a total of 41 units of assessments (UoAs):**

<table>
<thead>
<tr>
<th>Panel (code &amp; name)</th>
<th>Unit of Assessment (code &amp; name)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Biology</td>
<td>1 biological sciences (incl. environmental biology, biotechnology, agriculture &amp; food science, veterinary studies)</td>
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<tr>
<td></td>
<td>2 pre-clinical studies</td>
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<tr>
<td>2 Health Sciences</td>
<td>3 clinical medicine</td>
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<td></td>
<td>4 clinical dentistry</td>
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<tr>
<td></td>
<td>5 nursing, optometry, rehabilitation sciences and other health care professions</td>
</tr>
<tr>
<td>3 Physical Sciences</td>
<td>6 Chinese medicine</td>
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<tr>
<td></td>
<td>7 physics &amp; astronomy</td>
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<tr>
<td></td>
<td>8 materials science and materials technology</td>
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<tr>
<td></td>
<td>9 chemistry</td>
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</tbody>
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RAE 2020

- Research areas:
  - 69 research areas under 41 UoAs
  - UoA 5 (nursing, optometry, rehabilitation sciences and other health care professions)
  - 4 research areas under UoA 5:
    - 5a Nursing
    - 5b Other health care professions
    - 5c Optometry
    - 5d Rehabilitation sciences
  - UoA 5 was under 4 separate cost centres in RAE 2014
  - Each UoA is a submitting unit in RAE 2020 (while each cost centre was a submitting unit in RAE 2104)
**RAE 2020**

- Submitted items (papers / impact case studies / environment) are assessed and rated as:
  - **4*** World leading / outstanding impacts / conducive to producing research of world-leading quality
  - **3*** Internationally excellent / considerable impacts / conducive to producing research of internationally excellent quality
  - **2*** International standing / some impacts / conducive to producing research of internationally recognised quality
  - **1*** Limited originality / limited impacts / conducive to producing research of limited quality
  - Unclassified

- Each UoA will have an overall quality profile produced by summing the 3 sub-profiles with appropriate weightings.
A brief history of PolyU

The Hong Kong Polytechnic University (PolyU)

- Founded in 1937 as the Government Trade School
- In 1947 as the Hong Kong Technical College
- In 1972 as the Hong Kong Polytechnic
- Upgraded to university status in November 1994 as PolyU
- We celebrated our 80th anniversary 2 years ago
Where are we?
A brief overview of PolyU

- Ranking highlights

- 31st
  QS Asia University Rankings 2019

- 8th
  QS Top 50 Under 50 Rankings 2020

- 91st
  QS World University Rankings 2020
- **A brief overview of PolyU**
  - **Current staff strength (as of 31 October 2017)**

<table>
<thead>
<tr>
<th><strong>Full-time Staff</strong></th>
<th></th>
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<tbody>
<tr>
<td>Total Staff</td>
<td>5,429</td>
</tr>
<tr>
<td>Academic Staff</td>
<td>1,352</td>
</tr>
<tr>
<td>Research Staff</td>
<td>1,409</td>
</tr>
<tr>
<td>Administrative / Support Staff</td>
<td>2,668</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Part-time Staff</strong></th>
<th>856</th>
</tr>
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</table>
A brief overview of PolyU

Total student enrolment (2017/18): 27,088

Student Enrolment by Level of Study

- Undergraduate: 15,474 (57.1%)
- Sub-degree: 1,570 (5.8%)
- Taught Postgraduate: 7,558 (27.9%)
- Research Postgraduate: 1,867 (6.9%)
- Professional Doctorate: 619 (2.3%)

Student Enrolment by Place of Origin

- Hong Kong: 21,278 (78.6%)
- Mainland China, Macau & Taiwan: 4,984 (18.4%)
- Other Overseas Countries & Regions: 826 (3.1%)
A brief overview of PolyU

- The official medium for instruction is **English**
- Has 25 departments/schools within 6 Faculties plus 2 independent schools
- Faculty of Health and Social Sciences (FHSS) is one of the 6 Faculties
- FHSS has 5 departments/schools
  - Department of Applied Social Sciences
  - Department of Health Technology and Informatics (HTI)
  - Department of Rehabilitation Sciences
  - School of Nursing
  - School of Optometry
A brief overview of HTI

Department of Health Technology and Informatics (HTI)

- Officially inaugurated as a new department on 1 September 2005 within Faculty of Health and Social Sciences (FHSS)
- Host of two disciplines: Medical Laboratory Science (MLS) and Radiography (RAD)
- However, MLS and RAD were first offered in the then Hong Kong Polytechnic as sub-degree programmes in 1978 under different departments (i.e. 41 years’ history)
**Staff structure of HTI (as of September 2019)**

- **21 full-time academic staff** (Chair Prof/Prof/Associate Prof/Assistant Prof)
  - MLS: 11 (1/1/6/3) – including 1 Prof as Head
  - RAD: 9 (0/0/6/3) – including 2 Associate Prof as Associate Heads
  - Faculty-based strategic research area: 1 Assistant Professor
  - Still actively recruiting more academic staff (**all ranks**)  
  - Those with appointment start date on 1 September 2017 or afterwards are **not** included in RAE 2020

- **8 Senior Clinical Associate / Clinical Associates / Instructors**
  - MLS: 3 (0/0/3)
  - RAD: 5 (1/3/1)
  - These colleagues are **not** appraised for their research (also not included in RAE 2020)
Academic programmes

- **4-year Full-time BSc programmes – funded by UGC**
  - BSc(Hons) in Medical Laboratory Science
  - BSc(Hons) in Radiography
  - Both are within top 4 degree programmes within PolyU in terms of student quality

- **Taught master programmes – self-financed (mostly part-time)**
  - MSc in Medical Laboratory Science
  - MSc in Medical Imaging & Radiation Science
  - Planning of a new MSc Medical Physics

- **Research degree studies**
  - MPhil
  - PhD (34 + 9 as of today)
  - Mostly full-time study
Thematic Research Area

• Health and Disease: From Mechanism to Clinical Application
  – Cancer
  – Metabolic and Ocular Disorders
  – Immunity and Infection
  – Haemodynamics and Vascular Disorders
University Research Facility (URF) in

- **Life Sciences (ULS)**
  - [https://uls.polyu.edu.hk/](https://uls.polyu.edu.hk/)

- **Behavioral and Systems Neuroscience (UBSN)**
  - [https://ubsn.polyu.edu.hk/](https://ubsn.polyu.edu.hk/)

- **Chemical and Environmental Analysis (UCEA)**
  - [https://ucea.polyu.edu.hk/](https://ucea.polyu.edu.hk/)

- **3D Printing (U3DP)**
  - [https://u3dp.polyu.edu.hk/](https://u3dp.polyu.edu.hk/)

- **Materials Characterization and Device Fabrication (UMF)**

- **Big Data Analysis (UBDA)**
  - [https://www.polyu.edu.hk/ubda/](https://www.polyu.edu.hk/ubda/)
Preparation of RAE 2020

- Started in early 2017 university-wide
- Coordinator of each UoA
  - Coordinator of UoA 5 working with Department Heads and assisted by Chairmen of their respective Departmental Research Committees
- Research output (4 paper per eligible staff member)
  - Papers assessed by two external consultants (UK), done separately by each department
  - Papers rated 2* or below to be replaced if possible
  - Provided short-term funding to colleagues to generate more data for better papers if appropriate
Preparation of RAE 2020

- Research impact
  
  - 5 impact case studies for UoA
  
  - Working in groups with members from different departments
  
  - External consultants give advice on impact cases (& environment)
  
  - A retired Chair Professor from HTI appointed to help draft the cases
  
  - Issues: Evidences supporting the claim of impact hard to collect
  
  - HTI: contributed and involved in 2 cases
Preparation of RAE 2020

Research environment

- Overview, research strategy, people, income, infrastructure, collaborations, esteem, and contributions to the discipline or research base
- Collection of hard data and other relevant information from different departments
- External consultants give advice on environment (& impact cases)
- A retired Chair Professor from HTI appointed to help draft the environment document
Our strategies to improve research performance and prepare for RAE 2020

**People: staffing policies**

- Active recruitment for replacing retired staff
- Looking for candidates with strong research track record (with 3*/4* papers; successful grant applications) and/or background in MLS or Radiography
- **Start-up research package plus 1 PhD student** for new staff
- Less teaching in the first 1-2 years if possible
- Communal lab design: no need to spend in setting labs or buying instruments
- Mentorship programme for new assistant professors
- **Major reviews** for new assistant professors within 6 years (university policy)
- Stringent conditions for getting people of teaching track approved (these staff are NOT included in RAE) (university policy)
Our strategies to improve research performance and prepare for RAE 2020

- **Infrastructure**
  - Communal lab design: no need for individual PIs to spend in setting labs or buying expensive instruments
  - A new position of Scientific Officer was created: managing research labs and training of research students/personnel for using instruments in our research labs
- University research facilities (URFs)
  - Equipped with many expensive research instruments
  - URFs for Life Science, Behavioral and Systems Neuroscience, Dig Data Analysis are particularly useful to our colleagues
  - All manned by support staff (PhD-qualified scientific officers)
  - Nominal charges for usage
Our strategies to improve research performance and prepare for RAE 2020

Research strategy (1)

- Seed funding for producing pilot data for grant applications
- Sharing of successful experience in securing grants (departmental/faculty)
- Compulsory internal vetting of research proposals for major funding
- Promotion of quality rather than quantity
  - Revising criteria for appraising research performance: the final rating affects merit-based salary adjustment on an annual basis
  - HK$100,000 (as research fund) for papers with impact factor of 10 or above with key authorship
Our strategies to improve research performance and prepare for RAE 2020

Research strategy (2)

- Increasing research student numbers
  - Hong Kong PhD Fellowship Scheme
  - Students supported by Teaching Postgraduate Scheme (TPS)
  - Students supported by external grants
- Promoting and facilitating grant applications from all sources (local, Mainland China and overseas)
- Possible matching of secured external grants
- Financial support of publication charges (by our Faculty)
- Research student-led weekly research seminars for presentations by research students
- Annual HTI Postgraduate Symposium
Our strategies to improve research performance and prepare for RAE 2020

Research strategy (3)

- Promoting collaboration between colleagues from the two disciplines
- Promoting collaboration with researchers outside the Department/Universities
- Departmental financial support of conference attendance
- Promoting conducive research environment
  - Announcement of successful grant applications by Head or DRC Chairman
  - Announcement of staff promotion by Head
  - Protection of young researchers from admin duties
Our strategies to improve research performance and prepare for RAE 2020

What are the immediate outcomes in the past few years?

- More successful grant applicants (local, Mainland China and overseas), and also higher success rates
- Many more research students above the 12 FTEs allocated to the Department
- Many more papers with higher impact factors
- Will have to wait for the RAE 2020 results (announced in early 2021)
Activities and Achievements

- 2015 – 2016
- 2016 – 2017
- 2017 – 2018
- 2018 – 2019

Last Updated on Tuesday, 03 September 2019 10:07
Thank you!

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