Global trends in postgraduate (dental) education

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President’s Office
The University of Hong Kong

02 November 2017
Overview

VUCADEMIA

Trends

Challenges

Opportunities
VUCA (U.S. military term)

Volatility
Uncertainty
Complexity
Ambiguity
Turbulence (n.)

• Violent, rough commotion

• Irregular, random, unstable flow

• Haphazard, jagged motion

• Disturbed, chaotic state
“Tumultuous times”

• Demands for greater accountability
• Increasing public expectations
• Decline in trust
• Diminishing resources
• Shifting global geopolitics

Observatory on Borderless Higher Education
August 2011
“Storm of change”

- Complex, changing government policy, e.g. immigration
- REF (Research Excellence Framework)
- TEF (Teaching Excellence Framework)
- Brexit

Andy Shenstone
Leadership Foundation for Higher Education, U.K.
March 2017
“Turbulence in the new model”

• Fiscal austerity
• Increased reliance on tuition
• Shifts in funding uses
• Varying student body

Gerlowski & Seabrook
Journal for Development and Leadership
December 2014
“Incessant turbulence”

“Institutions are having to become increasingly fluid, disorganised, agile, and obsessively customer-facing in order to maintain direction and survive“.

In the first few decades of the next century the entire global system will make an almost complete transition into incessant turbulence. It is during this period when the transition from the information society to the experience society will occur and new industries will be born.

Michael Gell
Senior advisor at BT Laboratories
March 1995
Trump + Twitter = Turbulence
“[U]niversities face so much turbulence and uncertainty after the Brexit vote and the rhetoric surrounding immigration”.

Lord Christopher Patten
Former governor of Hong Kong
January 2017
“Changes in the status quo in the international scene have cast a cloud of uncertainty on not only the world economy, but also higher education.”

Tony Chan
President, HKUST
April 2017
“VUCADEMIA”

Volatility, uncertainty, complexity and ambiguity in academia

1. Increasing competition for the best staff and students
2. Increasing globalisation and mobility
3. Evolving consumer (student) expectations
4. Advancing technologies (and the pressure to keep up)
5. Changing workforce demands
6. More scrutiny (e.g. CAG)
7. Changing nature of “university education”
Trend 1
EMPLOYABILITY DRIVING APPLICATIONS
The three players

• **Governments** pushing for more competent workforces

• **Students** eager for better employment opportunities

• **Universities** needing to attract talent to boost research (and income)

These are “helping propel a wave of students seeking additional qualifications beyond the first degree.”

British Council (2014)
*Postgraduate Student Mobility Trends to 2024*
The Economist (2015)

*The whole world is going to university*
Impact of employability

• 77% of undergraduates, and 68% of A-Level students, are planning to do a postgraduate degree.

• 62% believe having the degree would make “significant difference” to their employment chances and salary.
The “upper edge”

“A lot of people now have an undergraduate degree, and having a master’s just give you that upper edge above everyone else.”

Morgan & Direito (2016) 
*The Postgraduate Experience Project*
### Positive employment outcomes

- Employed/working/studying six months of graduating:
  - **Ug**: 74%
  - **Pg**: 86%

- In “professional or managerial roles”:
  - **Ug**: 65%
  - **Pg**: 91%

- Unemployed:
  - **Ug**: 9%
  - **Pg**: 5%

“Further study isn't just a tactic to delay getting a job”, but something that provides “positive employment outcomes”.

Higher Education Careers Services Unit, U.K. (2013)

*What do graduates do?*
The “postgraduate premium”

- 11% of people in work, aged 26-60, have a Pg degree, up from 4% in 1996.

- U.K. Pg degree holders enjoy a higher wage premium, GBP5,500 (HKD55,000) per year on average.

- U.S. Pg degree holders enjoy almost twice as much: USD16,500 (HKD128,000) per year on average.

Mean earnings in the U.S. (2015)

U.S. Census Bureau (August 2016)
Digest of Education Statistics 2015
Greater impact for poorer countries

### Poorer countries, richer returns

Average increase in earnings for every additional year of tertiary education 1970-2013, %

<table>
<thead>
<tr>
<th>Region</th>
<th>Average Increase</th>
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<tbody>
<tr>
<td>Sub-Saharan Africa</td>
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<td>Middle East/North Africa</td>
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<td>Europe/Central Asia</td>
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Source: World Bank
### Masters degrees earned in the U.S.

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National Center for Education Statistics, U.S. (March 2016)

*Digest of Education Statistics 2015*
Trend 2

HEIGHTENED STUDENT MOBILITY
International student mobility

• Between 2000 and 2011, the number of international students over doubled.

• Today, almost 4.5 million tertiary students are enrolled outside their country of citizenship.

• Largest numbers of international students – from China, India and Korea. Asian students account for 53% of all students studying abroad worldwide.

OECD (2013)
Education Indicators in Focus
Global destinations

Canada and Australia predicted to have the highest annual average growth in inbound postgraduate students (4.1%)

The U.S. will continue to be the world’s most popular student destination

The U.K. is anticipated to lose market share over the next decade

Germany is expected to host 113,000 inbound postgraduate students

Growth in Japan is projected at 1.6%
International students in the U.S.

- International student enrolment, 5.2% of all students at U.S. universities, surpassed **one million** in 2015/16.

- China: 328,547 | 123,250 (37.5%)
- India: 165,918 | 101,850 (61.4%)
- Saudi Arabia: 61,287 | 13,210 (27.2%)
- Korea: 61,007 | 16,613 (21.6%)

Open Doors (2016)
Report on international educational exchange

Institute of International Education (2016)
By **2025**, there will be a projected **eight million** international students worldwide.

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OECD (2013)
*Education Indicators in Focus*
Growth projections to 2024

• China will continue to fuel growth.

• India “likely to be the real opportunity for inbound student growth over the next decade”.

• Strongest average annual growth:
  - Nigeria (8.3%)
  - Indonesia (7.2%)
  - Pakistan (6.4%)
  - Saudi Arabia (5.2%)

British Council (2014)
Postgraduate Student Mobility Trends to 2024
But ...

• Rate of growth for international graduate applications and international first time enrolment in the Fall 2016 admission cycle in the U.S. had slowed down.

• Decline of total applications from India (-7%) Middle East and North Africa region (-11%) between Fall 2015 and Fall 2016 (largely from Saudi Arabia, likely in response to recent change in Kingdom’s scholarship policy).

Council of Graduate Schools (2017)
*International Graduate Applications and Enrollment: Fall 2016*
And ...

Dennis (2017)

Luring overseas students in a more nationalist world

Poor recruitment results in U.S. and U.K. this year is a result of “rising nationalism” on their soil.
Trend 3

The best

COMPETITION FOR STUDENTS
“The talent pool is increasingly seen as an international one in which ranked universities across the world are competing for the best students.”

British Council (2014)
Postgraduate Student Mobility Trends to 2024
“Competition has intensified not just for excellent academics but also for excellent students.”
“The number of foreign students at a university will define its success.”

Shinzo Abe
Prime minister of Japan

QS Intelligence Unit (2014)
*Prime Minister Abe to Accelerate Internationalisation of Japanese Universities*
Country initiatives

**Germany:** aims to increase number of international students by 17% to “gain long-term friends ... throughout the world”.

**Japan:** *Global 30 Project* involves leading Japanese universities offering complete degree programmes in English.

**Mexico:** *Proyecta 100,000* to send 100,000 Mexican students to U.S. universities and enrol 50,000 U.S. students at Mexican institutions by 2018.

**Russia:** *5/100 initiative* (2012) boosts international faculty to 10%.
Russia’s internationalisation strategy

To get from 200,000 to 710,000 students by 2025:

1. Introduction of professional orientation work and special educational programmes for foreign students

2. Simplified rules for entry and exit of students, employment and internships

3. Highly qualified students invited to act as curators for other foreign students from arrival up to graduation

4. Russian citizenship for highest performing graduates using simplified procedures

5. Tax breaks and other benefits for participating institutions

6. Government-backed single online portal for students wanting to study in Russia

University World News (June 2017)
Russia to triple the number of international students
The Chinese return home

- China, a key source nation for Pgs, is responding to growing pressure to improve quality, scope and availability of Pg programmes at home.

- Enormous resources pumped into graduate education capacity across thousands of universities.

- More western-influenced teaching and research practices implemented by professors trained in the U.S. “They are beginning to teach more like we do, publish like we do, and operate their labs like we do.” Institute of International Education (2014).
Peking in Oxford

- In early 2017, Peking University bought a stately home to house its HSBC Business School.

- Designed for students from the U.K., Europe and China, the school will be fully functional by Summer 2018.

- PKU aims to “strengthen the school’s international reputation”.

- China is “opening up its higher education market to the world”.

Foxcombe Hall, Oxford
£8.8m
Tsinghua goes to the U.S.

The Global Innovation Exchange (partially-funded by Microsoft)

Tsinghua established its physical footprint in the U.S. in 2015 as part of a joint venture with the University of Washington.

First Chinese university to build a physical campus in the U.S.

Dual degree programme offered under the joint institute, Global Innovation Exchange (GIX).

GIX will enrol 100 new students each year, and some 3,000 learners by 2025.
The New York State Education Department gave GCU a “provisional charter” to award degrees at its New York branch campus – the first foreign higher education institution to have degree-accrediting powers in the U.S.

June 2017
Ex-CALTECH president heads KAUST

King Abdullah University of Science and Technology (KAUST) is an international, graduate-level research university dedicated to inspiring a new age of scientific achievement in the Kingdom, in the region, and around the globe.
Qatar builds from scratch

**Education City** houses branch campuses of some of the world’s universities in 14 km² on the outskirts of Doha:

- Virginia Commonwealth University (1998)
- Cornell (2001)
- Georgetown (2005)
- Northwestern (2008)
- HEC Paris (2011)
- UCL (2011)
France develops own Ivy League

Initiatives d’Excellence scheme (Idex)

- 7.7 billion Euros;
- Establish five to seven “world class” universities to compete internationally for best students and academics;
- Requirement to work more closely with business to commercialise research and form spin-offs.
Japan goes global

Top Global University Project (2014)
To advance internationalisation so graduates can “walk into positions of global leadership”.

Selected universities get extra funds from ¥7.7 billion (USD77 million) with bulk to 13 research universities.

The Japan Times (2014)
Universities aim to boost their global ranking
Singapore: “Boston of the East”

Global Schoolhouse Project (2002)

- 150,000 international students by 2015;
- Lift education sector’s contribution to GDP from 1.9% to 5%;
- “Attract talent from all over the world to add sparkle to our diamond”. Lee Hsien Loong, Singapore’s prime minister

University World News (2016)
What happened to the global schoolhouse?
Responding to internationalisation

Percentage of institutions with dedicated strategic plans and task forces for internationalisation (2016)

American Council on Education (2017)
Responding to internationalisation

Percentage of institutions hiring overseas recruiters to recruit international students

American Council on Education (2017)
Trend 4

EVOLVING STUDENT PROFILES AND EXPECTATIONS
International PGT student profile

Open to range of programme designs
Far more reliant on private/personal funding
More mature

Seeking to build professional capability or initiate career change
More likely to seek expert opinion from academics, alumni and agents

Committed to shorter term on study overseas
Focused on employability, post-study outcomes and ROI

More discriminating in choices
More mobile

Source: London Metropolitan University

UK HE International Unit (2015)
International taught postgraduate students:
The UK’s competitive advantage
Motivations for postgraduate study

1. Progress in current career path
2. Progress to higher-level qualification
3. Improve employment prospects
4. Personal interest
5. Requirement to enter a particular profession

www.TopUniversities.com
Applicant survey: Emerging markets 2016
15,746 respondents
Priorities when choosing institution

1. Overall reputation
2. Subject reputation
3. Employability/career prospects
4. Funding available
5. Programme details
6. Location
7. Department reputation
8. Cost

Students “want to be sure that they have got a big global brand on their certificate that’s going to be a passport to their future”.

*Phil Baty*
Editor-at-large of *Times Higher Education*

www.TopUniversities.com

*Applicant survey: Emerging markets 2016*
15,746 respondents (applying for Pg degree)
Drivers of destination choice

1. Scholarship/financial aid
2. International recognition of qualifications
3. Would like to work there afterwards
4. Cultural interest and lifestyle
5. Improve language skills

www.TopUniversities.com
Applicant survey: Emerging markets 2016
15,746 respondents
Attitudes towards Pg study

- 93.1%: Pgs require more independent study than Ugs
- 87.4%: Pgs want more personalised study experience than at Ug level
- 74.9%: Pgs expect more value for money at Pg level than at Ug level
- 21.6%: Pgs do not know what to expect at Pg level

Morgan & Direito (2016)
The Postgraduate Experience Project
Applicant profile overview

1. Applicants expect to more than double their current salary after completing a postgraduate degree.

2. Entrepreneurship is a popular long-term ambition – 20% would like to run their own company someday.

3. Subject-specific reputation sometimes more important than institutional reputation.

www.TopUniversities.com

Applicant survey 2015: Applicant ambitions

7,153 respondents
## Top 10 industries for Pg applicants

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<thead>
<tr>
<th>Industry</th>
<th>Percentage</th>
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<td>Engineering</td>
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<td>Consulting</td>
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<td>Education</td>
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<td>Technology</td>
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<td>Finance</td>
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<td>Government/public sector</td>
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<tr>
<td>Manufacturing/production</td>
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<td>Energy/environment/utilities</td>
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<td>R&amp;D/science</td>
<td>11%</td>
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<tr>
<td>Media/advertising</td>
<td>11%</td>
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Trends in dentistry postgraduate education
Dentists rank:
• #1 in The 100 Best Jobs
• #1 in Best Health Care Jobs
• #9 in Best Paying Jobs

Median salary:
USD152,700

Unemployment rate:
0.1%

Projected number of jobs (2014-24):
23,300
Critical trends (U.S.)

**PEOPLE**
- Ageing population
- More astute consumers, seeking value for spending

**PAYMENTS**
- Shifting from commercial insurance to public coverage and personal payment
- Commercial dental plans using more selective networks, demanding increased accountability

**PRACTICE IMPLICATIONS**
- Practices will need to be more efficient
- Larger, multi-site practices driven by dental plan pressures for smaller provider networks;
- Health care reform with increasing emphasis on outcomes and cost-effectiveness will encourage alternative dental care models.

**PROVIDERS**
- More dentists trained, but mounting debt barrier to education
- Pressure to provide preventive and restorative services

**POLICIES**
- More children with dental coverage
- Public programmes with growing participants will demand increased accountability

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Diringer, Phipps & Carsel

*Critical trends affecting the future of dentistry (2013)*
Why postgraduate studies?

Scarbecz & Ross (2007)
*Longitudinal analysis of first and fourth year U.S. public dental school students*

Encouragement received from dental school staff, partners and family.

Puryer et al. 2016
*Final year U.K. dental undergraduates*

Wanting to have “talent in a field”.
Advanced dental education (U.S.)

Number of accredited advanced dental education programmes
2006-07 to 2016-17

American Dental Association, Health Policy Institute,
Surveys of Advanced Dental Education (2017)
Applications & enrolment (U.S.)

Number of applications and first-year enrolment for advanced dental education programmes, 2015-16

Application figures represent the total number of applications submitted to all programmes, and counts applicants more than once if they applied to multiple programmes.

American Dental Education Association
Snapshot of Dental Education (2016-17)
Enrolment and graduation (U.S.)

American Dental Association, Health Policy Institute, 
Surveys of Advanced Dental Education (2017)
Graduates (U.S.)

Graduates of Accredited Dental and Allied Dental Education Programmes, 2005-15

American Dental Education Association
Snapshot of Dental Education (2016-17)
### Enrolment in advanced dental education programmes by sex
#### 2016-17

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<td>CLINICAL FELLOWSHIP IN ORTHODONTICS</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ORTHO AND DENTOFACIAL ORTHOPEDICS</td>
<td>548</td>
<td>495</td>
</tr>
<tr>
<td>CLINICAL FELLOWSHIP ORAL AND MAXILLOFACIAL SURGERY</td>
<td>15</td>
<td>179</td>
</tr>
<tr>
<td>ORAL AND MAXILLOFACIAL SURGERY</td>
<td>1,016</td>
<td>25</td>
</tr>
<tr>
<td>ORAL AND MAXILLOFACIAL RADIOLOGY</td>
<td>25</td>
<td>23</td>
</tr>
<tr>
<td>ORAL AND MAXILLOFACIAL PATHOLOGY</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>ENDODONTICS</td>
<td>305</td>
<td>168</td>
</tr>
<tr>
<td>DENTAL PUBLIC HEALTH</td>
<td>26</td>
<td>36</td>
</tr>
</tbody>
</table>

More female enrolments

---

**American Dental Association, Health Policy Institute, 2016-17 Survey of Advanced Dental Education**
Female dentists (U.K.)

<table>
<thead>
<tr>
<th>Year</th>
<th>1995</th>
<th>2014</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>27%</td>
<td>46%</td>
<td>50%+</td>
</tr>
</tbody>
</table>
Female postgraduates

Ayers et al. (2008)

_Dentists holding an annual practising certificate in New Zealand_

Most women complete postgraduate training before starting a family. Men are more inclined to have children before or during postgraduate study.

Al-Dlaigan et al. (2012)

_Female dentists in Saudi Arabia_

- 54% female respondents completed formal postgraduate education.
- 58% of these females had a masters degree, and 45% of these were obtained abroad.
In the 2015-16 survey:
• PBL was used by 91.8% of dental and non-dental schools
• CBL was used by 77.1%
• SL was used by 50.5%
Askham et al. (2008)

*Comparison taught master courses in gerontology in England, Scotland, Finland, and Spain*

Demand for generalist courses such as gerontology taught masters may fall in the coming years due to:

- employers’ unwillingness to allow day release;
- demands by older people themselves for treatment and care by specialists.

*Generalist courses may only survive in the biggest and best universities serving large populations and in cities able to attract overseas students.*
Askham et al. (2008)

“Strong possibility that many TPg courses will close”, and keys to success and sustainability include:

• there being a medical school within the university;
• the offering department being situated in research-active units or centres;
• there being a large population base;
• the institution being situated in large cities that can attract students from around the world.
DENT TPg applications

Faculty of Dentistry TPg programmes
Full- and part-time applications, 2001/02 to 2017/18

Source: Administration & Academic Liaison Section, HKU
25 May 2017
HKU TPg applications

DENT TPg applications account for between 0.4% to 2.0% of the institutional total.

Source: Administration & Academic Liaison Section, HKU
25 May 2017
Challenges facing HKU
(and the Hong Kong higher education sector)
Falling student numbers

Census and Statistics Department (2016)
Annual Digest of Statistics 2016
Falling T Pg student enrolment

Census and Statistics Department (2016)
Annual Digest of Statistics 2016
Fewer non-local students ...

Self-funded TPg programmes in UGC institutions

- Mainland China students
- Other non-local students

HKSAR Government (2017)

Replies to initial written questions raised by Finance Committee Members in examining the Estimates of Expenditure 2017-18
Competition (from TNEs)

455

Registered education courses run by non-local providers

60.7% UK

16.3% Australia

12.1% U.S.

4.4% China

0.4% Canada

British Council Educational Intelligence (2016)

Education Matters: Hong Kong
Competition (from UGC providers)

HKSAR Government (2017)
Replies to initial written questions raised by Finance Committee Members in examining the Estimates of Expenditure 2017-18

768 programmes on offer in 2016/17
# Branding and positioning

## Official university websites

<table>
<thead>
<tr>
<th>Importance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential</td>
<td>63%</td>
</tr>
<tr>
<td>Very important</td>
<td>28%</td>
</tr>
<tr>
<td>Quite important</td>
<td>8%</td>
</tr>
<tr>
<td>Not important</td>
<td>1%</td>
</tr>
<tr>
<td>Don’t use</td>
<td>0%</td>
</tr>
</tbody>
</table>

## University ranking websites

<table>
<thead>
<tr>
<th>Importance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential</td>
<td>31%</td>
</tr>
<tr>
<td>Very important</td>
<td>43%</td>
</tr>
<tr>
<td>Quite important</td>
<td>21%</td>
</tr>
<tr>
<td>Not important</td>
<td>4%</td>
</tr>
<tr>
<td>Don’t use</td>
<td>2%</td>
</tr>
</tbody>
</table>

---

www.TopUniversities.com

*Students online: Global trends 2015*

5,400 respondents in 33 countries
Reaching out to target audiences

Social media

- Essential: 13%
- Very important: 23%
- Quite important: 30%
- Not important: 25%
- Don’t use: 10%

Student forums/chat rooms

- Essential: 14%
- Very important: 30%
- Quite important: 32%
- Not important: 17%
- Don’t use: 8%

www.TopUniversities.com

Students online: Global trends 2015
5,400 respondents in 33 countries
Hardest to find information ...

- Funding: 38% Undergraduate, 21% Masters, 41% PhD
- Application/admissions: 21% Undergraduate, 1% Masters, 60% PhD
- Course content: 18% Undergraduate, 17% Masters, 65% PhD
- Student visas: 17% Undergraduate, 0% Masters, 83% PhD
- Location: 6% Undergraduate, 4% Masters, 90% PhD

www.TopUniversities.com
Students online: Global trends 2015
Educating millennials and Gen-Zers

Learning:
• small, ongoing increments
• over time
• accessed on demand
• multiple devices
• multiple forms of media
• focused on speed
• must be efficient and effective

Doug Harward
CEO of Training Industry, 2016
“The purpose of the CAGs is to provide a set of guidelines for the institutions to ensure that is no cross-subsidisation of UGC resources to non-UGC-funded activities.”

UGC (September 2015)
Cost allocation guidelines for UGC-funded and non-UGC-funded activities
Singapore: Lessons learned

• Johns Hopkins biomedical research facility failed to recruit sufficient doctoral students, and to meet eight out of 13 performance benchmarks (closed 2006)

• UNSW failed to recruit sufficient students (closed 2007)

• Tisch School of Arts suffered financial deficits (ended masters courses 2012)

• Chicago Booth School of Business wanted to be nearer China (moved to Hong Kong 2013)

The Straits Times (2014)
Singapore may rue fall in foreign student numbers
Opportunities for HKU
Education “hubs”

**THE World University Rankings 2014-15**

Areas are resized according to the absolute values derived from the distribution of overall scores in the top 200 of the rankings, resulting in areas having the highest density of highly scored universities are the ones that stand out.

Hennig & Baty (2015)
www.viewsoftheworld.net
Badging & credentialling

1. Degrees considered “basic unit of educational currency”.

2. Shift away from “gold standard of degrees”.

3. Embracing of badges, microcredentials and nanodegrees.

4. All these are based on a “market-driven floating exchange rate”.

Carla Casilli
Institute for Learning Innovation and Development
University of Southampton
“Electronic badges”, now being created by startups, proving that the holder has earned a particular qualification (at a relatively low cost), are disrupting traditional high cost university education.

*Kevin Carey*
Author of The End of College
Interest in further study

Census and Statistics Department (2015)
*Thematic Household Survey Report No. 56*
Recommendations

1. Offer the **best** (or most meaningful) programmes that align with the Asia’s Global University brand.

2. Recruit the **best students**, (provide funding where necessary) and place more emphasis on student **diversity** on campus.

3. Consider how students can boost broader **research** efforts.

4. **Differentiate** the strengths of HKU TPg qualifications in marketing initiatives.
Recommendations: CAG

CAG gives us a real opportunity to ask:
• Why are we doing this?
• What programmes do we truly want to offer?
• What’s going to excite us? What’s going to excite the market?
• How can an HKU TPg programme really make a difference?