Global Trends in Higher Education: Perspectives and Actions from the World Bank

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The World Bank
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Five critical issues in higher education

1. Equitable access
2. Relevance
3. Governance
4. Innovation
5. Internationalization
The context
Towards an increasingly interdependent world
Towards an increasingly interconnected world
A new economy and society

Global
Highly Competitive
Technology driven
Constantly Changing
Knowledge Based
A globalized economy
In 43 out of 50 States

Canada or Mexico is the 1st or 2nd largest export market

(Note that "#2 trading partner" only applies when Canada or Mexico is not the #1 partner)
The States Benefiting the Most From NAFTA

States with the most jobs supported by trade with Canada/Mexico attributable to NAFTA

- California: 575,190
- Texas: 387,067
- New York: 318,169
- Florida: 285,754
- Illinois: 211,377
- Pennsylvania: 206,209
- Ohio: 187,968
- Georgia: 155,397
- North Carolina: 152,422
- Michigan: 146,985

Total: 4,975,384

Source: U.S. Chamber of Commerce
Since NAFTA, U.S. manufacturing exports to Canada and Mexico increased 258%.
9 million U.S. jobs depend on trade and investment with Canada

5 million U.S. jobs depend on trade and investment with Mexico

(Wilson Center and Centre of Policy Studies, Victoria University estimates)
Estimates suggest that 40% of the content of U.S. imports from Mexico and 25% of the content of U.S. imports from Canada originated in the U.S.
Towards an increasingly turbulent world
Towards an increasingly fascinating world
Why does it matter?

Sure glad the hole isn’t at our end.
“A new reality...
...to be seen with different lenses”
The good news...

We live in a world which is increasingly interconnected, educated, and integrated

A “fertile” land for more and better higher education
The challenging news

… we don’t know how the dramatic social, economic, political and technological shift will impact higher education

…and sometimes it looks like not too many people care about it
A contested terrain

OUR STRATEGIC PLAN
1. Grow the endowment.
2. Attract high-ability students.
3. Support faculty and staff excellence.
4. Build a diverse global community.
A challenging geo-political environment
Are universities just reacting, emulating or they are proactively engaged in fostering change?
To begin with...

- An increasingly complex sector
- Significant expected growth, but...
- A sector under a lot of pressure for a more effective response
- Societies want solutions.
WB: Some key challenges in HE

- Biases towards “universities”
- Limited pathways allowing mobility
- Weak quality assurance
- Clear disparities in access
- Inadequate information guiding decisions
- Insufficient investment
- Weak engagement with community
- Limited institutional efficiency
- Limited adjustment of curriculum
- Weak connection with innovation agenda
What are the top issues in higher education in your region?

Quality Assurance/Governance

Employability of Graduates

Financing

Diversification of HE. Emphasis on TVET

Equity and Access, and Innovation
What priorities will be emphasized in higher education in the next 5 years? *

- Bridging gap between education and employment (76.9%)
- Funding models for TEIs (69.2%)
- Improving quality assurance (69.2%)
- Improving governance (69.2%)
- Role of the private sector in TEIs (61.5%)
- Equity and access to TEIs (53.8%)
- Developing capacity of TEIs in science and innovation (53.8%)
- Innovation in educational delivery models used by TEIs (46.2%)
- Articulation between different types of TEIs and with... (38.5%)
- Non-university post-secondary sector (38.5%)
- Fostering internationalization (38.5%)
- Greater focus on TEIs versus governments (38.5%)
- Diversification in institutional mission of TEIs (15.4%)

* Multiple responses
Equitable Access
More than ever more people are having access to higher education ...

Global enrollment in tertiary education (Millions of students)
Booming Higher Education Enrollment

Tertiary Gross Enrollment Ratio

Percentage


Upper middle income countries

Lower middle income countries

Low income countries
In 2008-16, in average 6.3 new tertiary education institutions were established per day (including Sundays and holidays).

The college-age cohort in India is projected to reach 400 million by 2030.
## In India... and USA

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2016</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student enrollment</strong></td>
<td>13,641,809</td>
<td>28,484,746</td>
<td>109 %</td>
</tr>
<tr>
<td></td>
<td>19,102,814</td>
<td>20,516,000</td>
<td>7.4 %</td>
</tr>
<tr>
<td><strong>Tertiary education institutions</strong></td>
<td>23,576</td>
<td>42,185</td>
<td>78 %</td>
</tr>
<tr>
<td></td>
<td>6,632</td>
<td>7,236</td>
<td>9.1 %</td>
</tr>
</tbody>
</table>
By 2020 there will be more University graduates in China than there are young people in Europe
The shifting distribution of the global stock of people with tertiary education

Global distribution of tertiary educated 25-34 y-olds in 2013 and 2030
All scenarios signal towards significant growth for the next 20 years

Note: Figures are estimates based on available data. Population estimates are based on OECD’s annual population projections
Source: OECD, UNESCO, and National Statistics websites for Argentina, China, India, Indonesia, Saudi Arabia and South Africa
The case of China and India

Millions accessing different levels of education 1970-2050 (projected)
Sharp rise in access among the poor

Higher education students in the bottom 40% of income (%)
There is still a significant disparity in access

- Rural
- Women
- Poor
- Socially disadvantaged people
Higher education, still a privilege for a few

% of 25-29 years old who have completed at least 4 years of tertiary education, by wealth

- Senegal: Rich 8%, Poor 0%
- India: Rich 40%, Poor 5%
- France: Rich 65%, Poor 30%

Source: GEM Report team analysis of household survey data.
d. The aged share of the global population is rising, while the child share is falling.
For the first time in 28 years, a baby has been born in this Italian town.

February 1, 2016
Youth (aged 15-24) population projections by region, 2010-2100

Source: UN Population Division
Growth in the Global Middle Class is Centered in Asia

ASIA: 65%

Middle Class= annual income for a four-person household of $14,600 to $146,000 at PPP
A dramatic demographic shift...

From 2015-2050, the total population in most of Europe will decrease by 5% while most of Africa will grow by more than 40% (World Bank, 2015).

By 2030, 42% of the youth globally will live in Africa.

Currently more than 70 percent of youth in Africa live on less than 2 U.S. dollars per day.
2

Relevance
It matters

Education = Better life
THE HUMAN CAPITAL PROJECT
The Human Capital Project seeks to build commitment for effective reforms and investments that will transform human capital outcomes for the greater good of both people, societies and economies.
OVERALL HUMAN CAPITAL INDEX

SURVIVAL
Children who don’t survive don’t grow up to become future workers

EDUCATION
Contribution of quality-adjusted years of school to productivity of future workers

HEALTH
Contribution of health (average of ASR and stunting) to productivity of future workers

HCI
Productivity of a future worker (relative to benchmark of complete education and full health)
Average rate of return to year of schooling is 10.4%.

## Economic returns by educational level and region*

<table>
<thead>
<tr>
<th>Region</th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
<th>GDP/pc (PPP 2005)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>10.3</td>
<td>6.9</td>
<td>16.8</td>
<td>6,719</td>
<td>74</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>9.4</td>
<td>3.5</td>
<td>8.9</td>
<td>3,645</td>
<td>7</td>
</tr>
<tr>
<td>South Asia</td>
<td>9.6</td>
<td>6.3</td>
<td>18.4</td>
<td>2,626</td>
<td>4</td>
</tr>
<tr>
<td>Eastern and Central Europe</td>
<td>8.3</td>
<td>4.0</td>
<td>10.1</td>
<td>6,630</td>
<td>7</td>
</tr>
<tr>
<td>High Income Economies</td>
<td>4.8</td>
<td>5.3</td>
<td>11.0</td>
<td>31,748</td>
<td>6</td>
</tr>
<tr>
<td>East Asia and Pacific</td>
<td>11.0</td>
<td>6.3</td>
<td>15.4</td>
<td>5,980</td>
<td>6</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>9.3</td>
<td>6.6</td>
<td>17.6</td>
<td>7,269</td>
<td>20</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>13.4</td>
<td>10.8</td>
<td>21.9</td>
<td>2,531</td>
<td>24</td>
</tr>
</tbody>
</table>

*Latest available year between 2000-2011*

It is much more than just economic returns
Percentage of population that believes it is “absolutely important to live in a democracy,” by country and level of education

LIFE EXPECTANCY

Education means a longer life.
People who graduate from college live at least 5 years longer than people who don’t finish high school.

The NATION’S HEALTH
A PUBLICATION OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

www.thenationshealth.org/sdoh
Higher education as the last place in the formal education system to build tolerance and “otherness” awareness

we aim to develop human personality and personal dignity, respect for human rights and fundamental freedoms and promoting understanding, tolerance and friendship
The world according to the United States of America
A key challenge: Balancing equality of opportunities with high academic standards ...and relevance
However... returns are declining

...and even the ones having access to higher education, not always reap the benefits

The case of Angelo
Timely retention

...a larger challenge

@fmarmole

Email: fmarmolejo@worldbank.org
A wake-up call?

The Global Learner Survey
September 2019

Pearson
Still is valid a formal Education?

Formal education still reigns supreme but a more relaxed attitude is emerging.

Which of the following best describes your view on formal education? A formal education is...

- Green: An important stepping stone. You need to invest in it to achieve your work and life goals.
- Grey: Nice, but not necessary.
- Black: Not relevant today. You can create your own success and prosperity without it.
Does higher education prepare people for a career?

The career divide: almost half of those in the US, UK, Australia, Canada, and Europe don't think that higher education prepared them for their career.
Education doesn’t end at the university. We should keep learning after.
What are students learning?

*Bloom’s Taxonomy (Revised)*

Creating
Evaluating
Analyzing
Applying
Understanding

Remembering
Math Skill Levels and Gains (SD Units)

<table>
<thead>
<tr>
<th>Country</th>
<th>Skill Level at Start of Year 1</th>
<th>Skill Level at End of Year 2</th>
<th>Skill Gains</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>-0.32</td>
<td>0.08</td>
<td>0.40***</td>
</tr>
<tr>
<td>China</td>
<td>0.84</td>
<td>0.65</td>
<td>0.18***</td>
</tr>
<tr>
<td>Russia</td>
<td>0.00</td>
<td>0.12</td>
<td>0.11**</td>
</tr>
</tbody>
</table>

- Skill level at Start of Year 1
- Skill level at End of Year 2
- Skill Gains
Recently, an examination was conducted by the Goa government’s director of accounts for 80 posts of accountant in the state government. As per the records, around 8,000 candidates appeared for the examination.

The surprising fact is that none of the candidates could pass the examination. Yes, you read it right! All the aspirants failed the test.
Job requirements of Hilton Hotel management trainee in Shanghai, China

1986

上海静安希尔顿酒店招聘启事

本五星级酒店是国际希尔顿在中国管理的第2个企业，属全资外资合作经营，楼高43层，客房800间，中西餐厅酒吧8个。设备极其豪华，位于上海静安区。将在明年中以后开始营业。届时将成为国际希尔顿公司在世界50多个国家中，超过100个酒店的大家庭中的一员。

现在招聘受训管理人员，条件如下：

- 素质：品质优秀，热爱良好，勤奋好学。
- 年龄：20岁至26岁（1960年—1966年出生）。
- 文化程度：大学或大专毕业。
- 外语程度：英语“新概念”第二册以上，会话流利，同时能操其他外语者优先考虑。
- 健康状况：优良。
- 其他：住处最好在静安区附近。

如有条件者，并有意请在八月二十，二十一，二十二日三天上午9：00-11：00，下午2：00-5：00，持学历证明，本人近期照片一张和五元报名费，到荣华路40号新华中学报名，如为在职者，应持单位证明letter。如有条件者，并有意请在八月二十，二十一，二十二日三天上午9：00-11：00，下午2：00-5：00，持学历证明，本人近期照片一张和五元报名费，到荣华路40号新华中学报名，如为在职者，应持单位证明letter。

2018

希尔顿酒店集团管理培训生

我们寻找什么样的人才？

希尔顿全球酒店集团旗下品牌酒店及度假村的前台管理培训生始终坚持以宾客的利益为重并与团队成员密切合作。若要成功地应聘这一职位，您的态度、行为、技能和价值观应符合下列标准：

- 在酒店、休闲和/或娱乐行业有过服务经验
- 积极的工作态度和良好的个人表达与沟通能力
- 提供高水平客户服务的热情
- 独立工作能力以及团队协作能力
- 精通计算机，能够利用酒店系统进行操作
- 四年本科学历以及至少两年工作经验

- Excellent character, willingness to learn
- Ages 20–26
- Bachelor’s degree or associate degree
- Proficient in English
- Good health
- Live close to the hotel location

- Hospitality industry experience
- Positive attitude and good communication skills
- Focus on high level of customer service
- Ability to work independently and as part of a team
- Competent level of IT proficiency
- Four-year university degree with at least two years of work experience
10 key skills for future graduates

- Sense-making
- Social intelligence
- Novel & adaptive thinking
- Cross-cultural competency
- Computational thinking
- New media literacy
- Transdisciplinarity
- Design mindset
- Cognitive load management
- Virtual collaboration

## Ideal timing for the development of skills

<table>
<thead>
<tr>
<th></th>
<th>0-5</th>
<th>6-11</th>
<th>12-18</th>
<th>19-29</th>
<th>30+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem solving</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persistence</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Self-control</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team-work</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initiative</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Confidence</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Ethics</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Guerra and Modecki (2015), *Social-Emotional Skills Development Across the Life Span: PRACTICE*, The World Bank*
### Transformation of the Academic Curriculum in Higher Education

<table>
<thead>
<tr>
<th>Curriculum Innovation</th>
<th>General Global Trends</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition of previous learning</td>
<td>Increased acceptance. NQF</td>
<td>Incipient / daunting</td>
</tr>
<tr>
<td>Flexibility in academic subjects</td>
<td>General Education</td>
<td>Absent in general</td>
</tr>
<tr>
<td>Easier transition pathways between levels and institutions</td>
<td>Articulation arrangements</td>
<td>Very limited</td>
</tr>
<tr>
<td>Competency-based portfolio</td>
<td>NQF</td>
<td>Absent</td>
</tr>
<tr>
<td>Blended teaching-learning</td>
<td>MOOCs</td>
<td>Incipient</td>
</tr>
<tr>
<td>Experiential &amp; service learning</td>
<td>Co-Op programs</td>
<td>In some cases</td>
</tr>
<tr>
<td>Internationalization</td>
<td>+ 2nd language and increased student mobility + Internationalization “at home”</td>
<td>Absent</td>
</tr>
<tr>
<td>Academic workload</td>
<td>Significant “compression”</td>
<td>Excessive academic workload</td>
</tr>
</tbody>
</table>
The case of Malaysia

iCGPA:
Integrated Cumulative Grade Point Average

1: Knowledge

2: Practical Skills & Psychomotor

3: Social Skills & Responsibility

4: Ethics & Values

5: Communication & Leadership

6: Problem solving & Scientific skills

7: Information Management & Lifelong Learning

8: Entrepreneurship & Management Skills
3 Governance
Autonomy vs. regulation

- Autonomy:
  - What to teach
  - What experience is given to the student
  - What curriculum
  - What modes of delivery

- Regulation:
  - To assure minimum standards
  - To assure equity of access
  - To allocate public financial subsidies adequately
Higher education does not always work as a system of connected actors.

*Some disconnects*
Other Disconnects

Among higher education institutions

Inside higher education institutions
Innovation
New Superstar Firms: digital platforms operating globally, existing in the cloud

<table>
<thead>
<tr>
<th>Platform</th>
<th>Offline competitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazon</td>
<td>Walmart</td>
</tr>
<tr>
<td>AirBnB</td>
<td>Marriott and Hilton</td>
</tr>
<tr>
<td>Didi Chuxing</td>
<td>Licensed taxis</td>
</tr>
</tbody>
</table>

Market capitalization (billions worldwide, 2018)
Rooms worldwide, 2018
Number of drivers (millions in China, 2018)

Source: Author’s calculation, based on data from NASDAQ, AirBnb, Marriott International Inc., Financial Times.
Google Co. just announced that it has manufactured a quantum computer able to run in 200 seconds, complicated mathematical algorithms that it would take the most powerful conventional supercomputer in the world 10,000 years to run.
Robotization: a reality

The stock of industrial robots in operation worldwide will rise 12% a year between 2014-2018

Sources: UniCredit Research, International Federation of Robotics
The pace of change

More scientific changes in the next 50 years, than in the last 400 years

Kevin Kelly
At the same time...
At the same time...
The library...
Computer classrooms
Classrooms
Distant realities...
Distant realities
<table>
<thead>
<tr>
<th>Distant</th>
<th>realities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Distant realities
Distant (and no so distant) realities
New forms of knowledge

The “WikiScience” leads to cheap, fast and out-of-control science.

The case of the “Journal of Negative Results in Biomedicine”. “Zero authored” papers produced by computers are possible.
Our technology
New limits of privacy

Father: I committed sin

I know it!
He uses WiFi
Who told us that the educational institutions shouldn’t and can’t change?
Since 2015, all higher education students are “digital native”

Don’t worry, little boy, I’ll take you home. What’s your address?
Different youth?

It is a beautiful day. I want you playing outside.
I have a netbook, MP3 Players, flashdrive, IPAD... Dad, what did you use in school when you were student?

My brain!!
Is higher education being affected by the ramifications of the IR 4.0?
Technological developments: Direct impact on higher education

- Virtual / Augmented Mixed reality
- Adaptive learning
- Digital literacy
- Unbundling
- Artificial Intelligence
- Gaming
How many years until a machine can do our job better than us?

- Fold laundry
- Truck driver
- Retail salesperson
- Write a New York Times bestseller
- Putnam maths competition
- Surgeon
- Maths research
- High-level machine intelligence
- AI researcher
- Full automation of labour

Source: When Will AI Exceed Human Performance? Evidence from AI Experts

© Nigel Hawtin
The Da Vinci Surgical Robot at Amrita Hospital has completed over 780 surgeries in multiple specialties in just 2 years.
...and why the upcoming digital transformation is a unique opportunity for higher education?
In the 21st century, we’re facing a massive change in the technologies and types of jobs available... We can’t be certain that both productivity and employment will rise.

We, as a society, need to make the commitment to guide our technologies responsibly and to capitalize on the prosperity we are creating, just as those who came before us did. That way we will ensure that AI technology creates opportunity for all, not just for a lucky few.

Stephane Kasriel
Internationalization
Do governments in developing and emerging countries care about internationalization?
What priorities will be emphasized in higher education in the next 5 years? *

- Bridging gap between education and employment (76.9%)
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- Fostering internationalization (38.5%)
- Greater focus on TEIs versus governments (38.5%)
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* Multiple responses
A furious competition for talent

- **Australia**: 720,000 onshore enrolments by 2025
- **Canada**: 450,000 international students by 2022
- **China**: 500,000 international students by 2020
- **France**: Increase international student intake by 20% (amounting to 470,000 based on current levels)
- **Germany**: 350,000 inbound internationally mobile students by 2020
- **Japan**: 300,000 international students by 2020
- **New Zealand**: 143,000 international students by 2025
- **Taiwan**: 58,000 foreign students by 2019
- **South Korea**: 200,000 foreign students by 2023
- **Ireland**: 44,000 foreign students by 2019/20

Source: British Council
Expanding HE beyond national boundaries

International branch campus facts

76 countries hosted international branch campuses in 2015 (10% higher than in 2011)

45% Branch campuses under development worldwide being planned by U.S. and U.K.-based institutions

73% Portion of total international branch campuses run by institutions in the U.S., U.K., France, Russia or Australia

Some hints

A narrowed interpretation of what is (and what is not) internationalization of higher education

Serious concerns about negative connotations and impact:
- Neo-colonialism
- Brain drain
- Loss of culture
- Further stratification of institutions
Some typical misinterpretations

<table>
<thead>
<tr>
<th>Mobility as synonym of internationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rankings’ positioning as synonym of quality</td>
</tr>
<tr>
<td>Signing of MOUs as synonym of international activity</td>
</tr>
<tr>
<td>Internationalization by decree</td>
</tr>
</tbody>
</table>
What is it missing?
A word of hope
Governments must act..

...But national level changes are not sufficient...

... Higher Education Institutions need to embrace the change themselves.
The Italian University in 1350

...and today’s universities
The art of ambiguity

Continuing doing the same, but waiting different results
Who is responsible?
“Higher education is the only business that holds a formal ceremony to get rid of its clients”

Elliot Masie, President - The Masie Center
A paradox

Higher education institutions are the best laboratory for social change

...but they have a tendency to inhibit their innovation capacity
A renewed role for higher education:

*Towards globally-minded and internationally abled, but locally-engaged citizens*
Graduates required in today’s world

- Able to work in teams
- Able to adapt to changing multicultural environments
- Global awareness and local consciousness
- Fluency in at least a second language
- Ability to communicate and to use ITC

“Have learned to keep learning”
A renewed role for higher education:

But also higher education institutions as role model local and global “corporate citizens”
More international, but more locally connected and socially responsible.

More collaborative (inside and outside)

Less risk averse

More flexible

More innovative

More entrepreneur
The importance of collaboration
Golden key: Everybody’s contribution could make a big difference

All the Windows are frozen again!
Changing the Paradigm

- A priority for “tomorrow”
- Marginal
- Too many complications
- Others’ opportunity
- Just a good idea

- A window of opportunity
- Engagement at home
- Highly practical
- Central
- Priority for “yesterday”
“It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change.”

CHARLES DARWIN
“The trouble with our times is that the future is not what it used to be.”

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