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Re-imagining student learning in a time of global change and uncertainty

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Provost, Universitas 21

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21 Years of Experience

17 Countries

27 Universities

1,000,000 + Students

250,000+ Staff

Australia

University of Melbourne
University of Queensland
UNSW Australia

Canada

University of British Columbia
McMaster University

Chile

Pontificia Universidad Católica de Chile

China & Hong Kong (SAR) China

Fudan University
Shanghai Jiao Tong University
University of Hong Kong

India

University of Delhi

Ireland

University College Dublin

Japan

Waseda University

Mexico

Tecnológico de Monterrey

New Zealand

University of Auckland

Singapore

National University of Singapore

South Africa

University of Johannesburg

South Korea

Korea University

Sweden

Lund University

Switzerland

University of Zürich

The Netherlands

University of Amsterdam

United Kingdom

University of Birmingham
University of Edinburgh
University of Glasgow
University of Nottingham

United States of America

University of California, Davis
University of Connecticut
University of Maryland

Membership: 27 World-class, research-intensive universities



65% of members in World Top 100 (Times Higher & QS 2019)

75% - 85% of members in Top 200 (Times Higher & QS 2019)

Strategic decision to include members of high standing in their own specific geographical regions.

Current Trends in International Higher Education that impact on your students' learning

- **Demographics of Higher Education** (What influences how our higher education systems work?)
- **National Internationalization Strategies** (Who are in our classes?)
- **Educational Technology** (How does technology influence how we teach?)
- **4th Industrial Revolution** (What do our students need to learn for the future?)
- What the **U21 network is responding to** at the moment



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Demographics: Massification and Universalisation of Higher Education

(What influences how our higher education systems work?)

Global Demographics

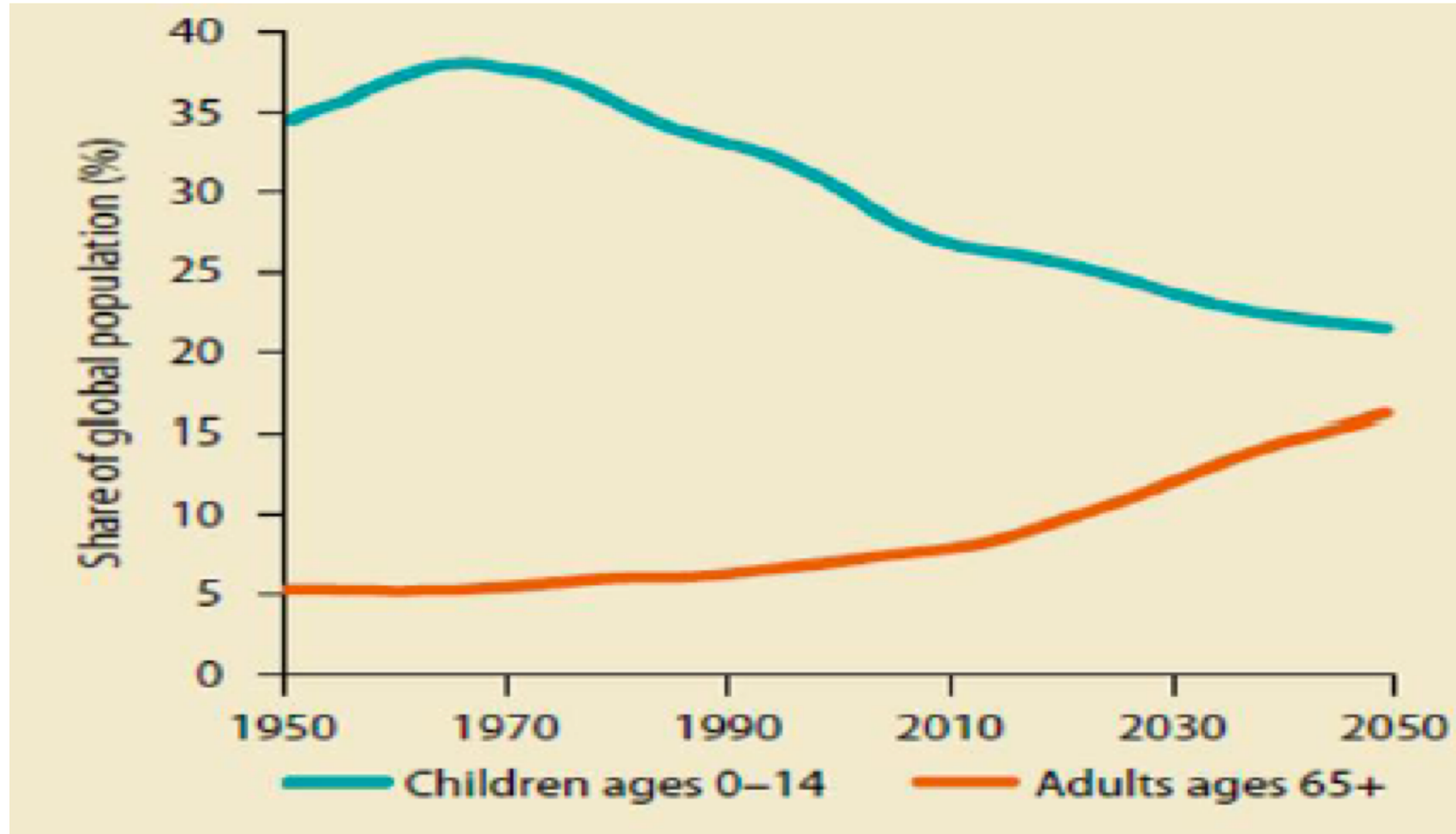
10 biggest countries by population, 1950-2100, millions

Countries in **red** = first appearance in the top 10



Country	1950	Country	2015	Country	2050	Country	2100
China	544	China	1376	India	1705	India	1660
India	376	India	1311	China	1348	China	1004
USA	158	USA	322	Nigeria	399	Nigeria	752
Russia	103	Indonesia	258	USA	389	USA	450
Japan	82	Brazil	208	Indonesia	321	Congo	389
Germany	70	Pakistan	189	Pakistan	310	Pakistan	364
Indonesia	70	Nigeria	182	Brazil	238	Indonesia	314
Brazil	54	Bangladesh	161	Bangladesh	202	Tanzania	299
United Kingdom	51	Russia	143	Congo	195	Ethiopia	243
Italy	47	Mexico	127	Ethiopia	188	Niger	209

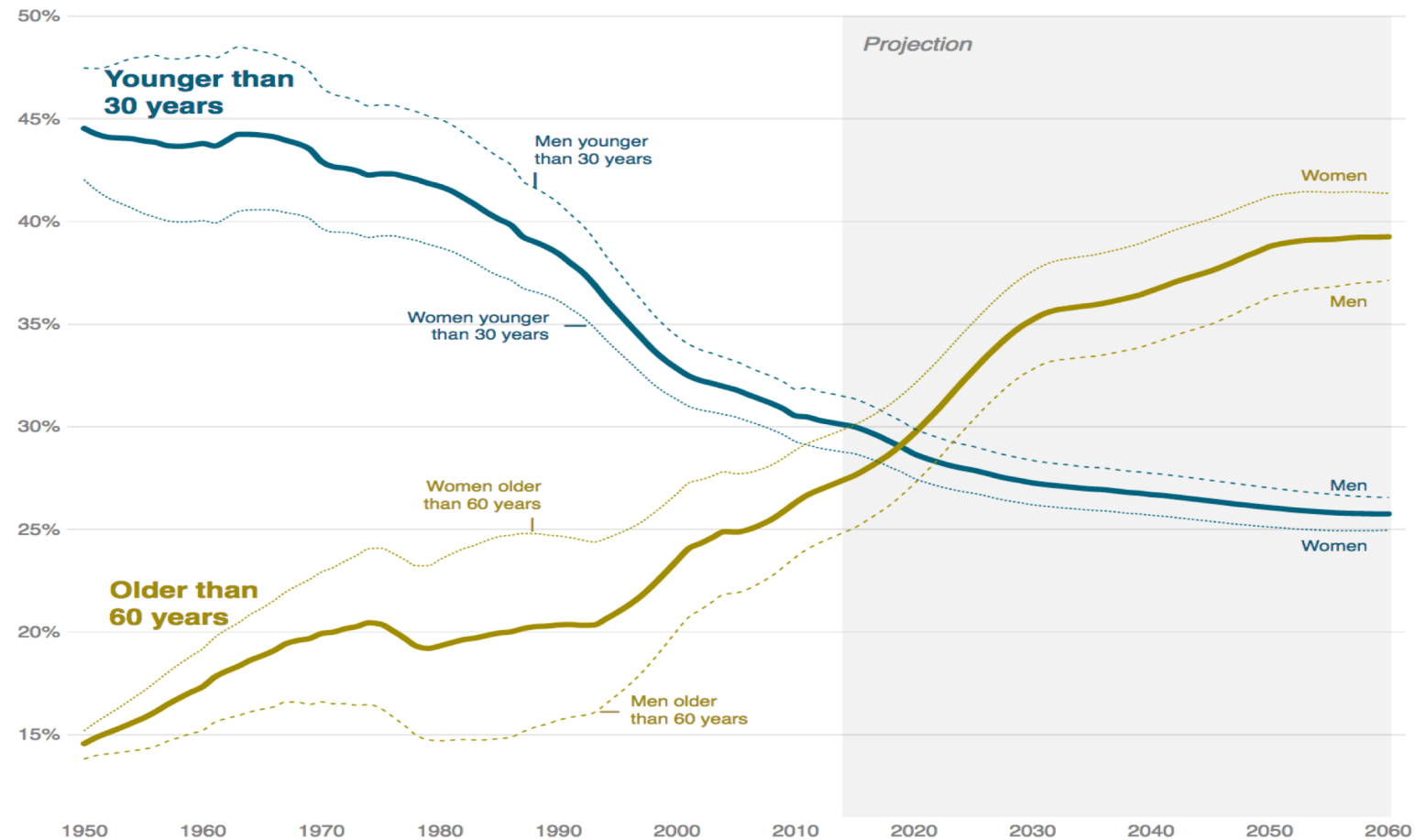
Changes in world age cohorts



Source: World Bank;
World Development
Report 2015

Projection that by 2020 there will be more Germans over 60 years than under 30 years

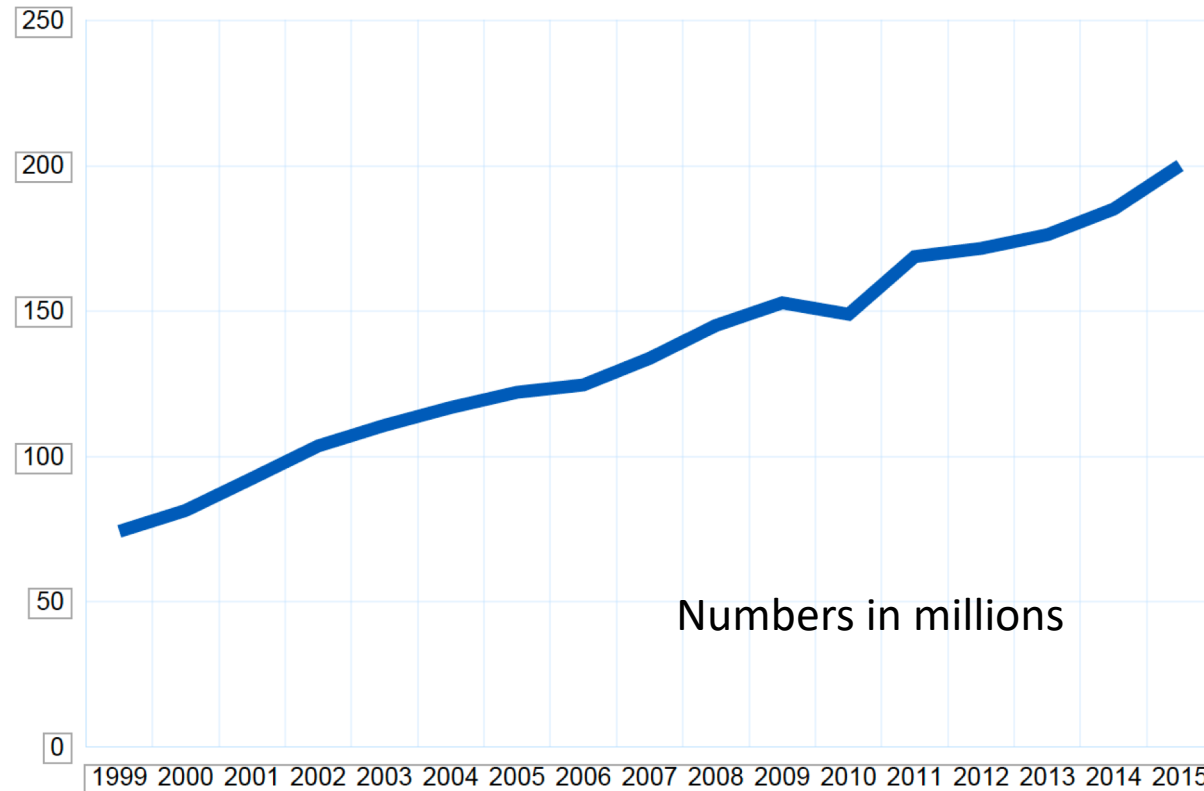
Share of Germans **younger than 30** and **older than 60 years**.



Projections are from 2015

Source: Destatis, April 2015 • Created with Datawrapper

However global enrolment in higher education continues to grow



Where are the highest student numbers?

- **Up to 2000** there were more students enrolled in North America and Western Europe than any other region
- **In 2003** East Asia and the Pacific overtook N. America/Europe with highest volume and global share of higher education enrolments
- **In 2014** South and West Asia overtook North America and Europe as world's top third region.
- **Europe's higher education survival** will continue to rely on international students.

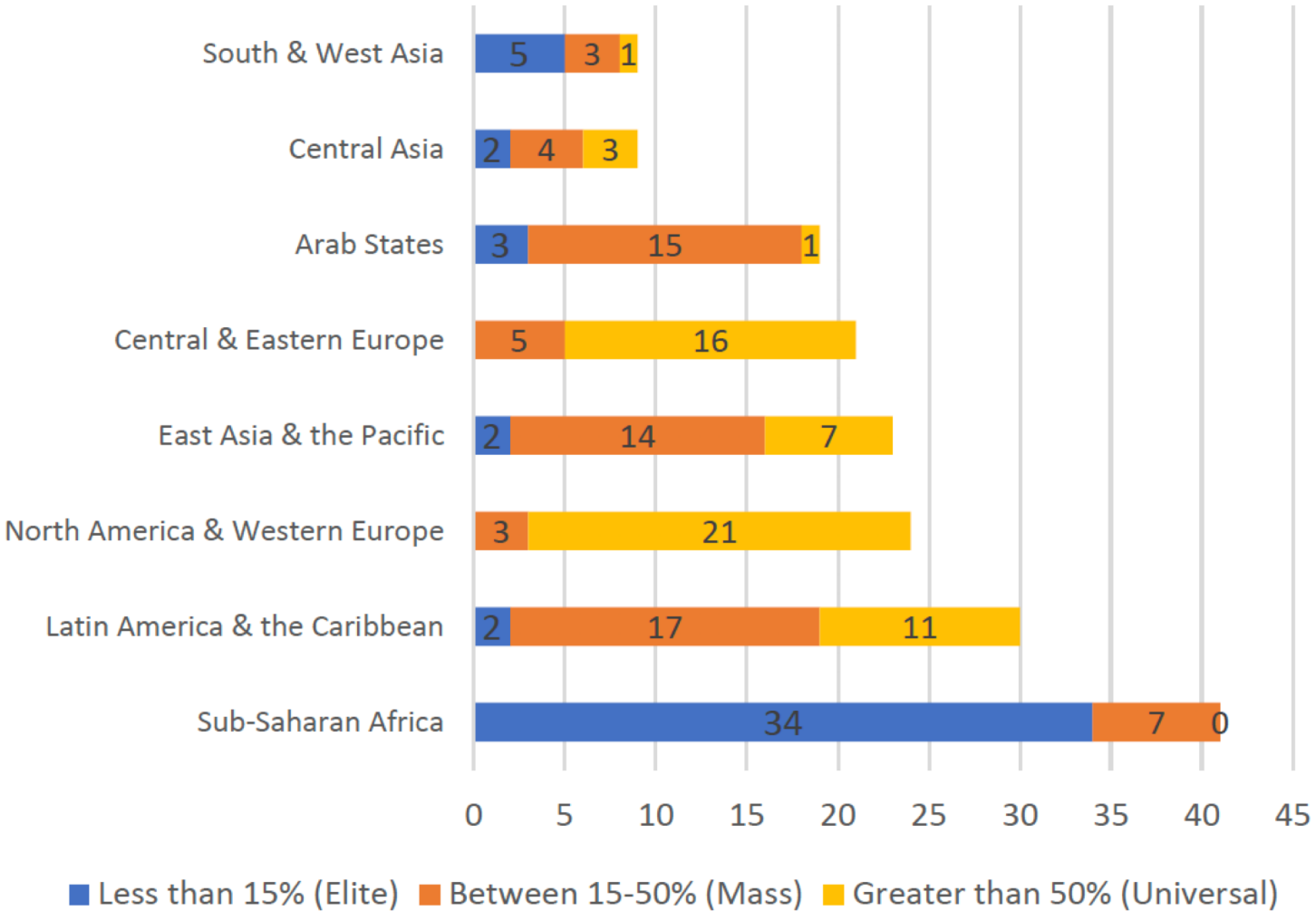
Elite, Massified and Universal Higher Education Systems



Elite – Massified – Universal Higher Education Systems

PHASE	ACCESS (for 18 -23 year olds)	FUNCTION
Elite System	Access to HE is a privilege of birth and/or talent. Less than 15% of the age cohort will participate.	Shaping the minds & characters of the ruling class
Massified System	Access to HE is a right for some. 50% of age cohort will participate	Transmission of skills and preparation of population for technical and economic leadership roles
Universal System	Access to HE is an obligation for middle and upper classes	Adaption of the whole population to social and technological change

Fig. 10 Number of countries by region according to Trow's elite, massive and universal systems



Impact on Academics and students

PHASE	INFLUENCE	CHARACTERISED BY
Elite System	Academic freedom and influence.	Highly invested 'traditional' students who are exposed to academic knowledge creation. Small numbers, expensive.
Massified System	Increasing university management power .	Larger classes. Teaching, research and community service quantified in academic output. Quality Assurance focus, more affordable for more diverse student cohorts. Focus moves from teaching to learning
Universal System	Financial management using big institutional data	Teaching and research in conflict; research for ranking performance rather than social good, value of academic community service questioned. Increasing non-national students; students heavily influenced by social media



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National Internationalization Strategies

(who are in our classes?)

International Student Recruitment Targets (2013)

(Source: British Council)



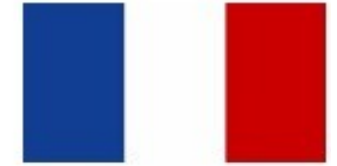
Australia
720.000 onshore enrolments by 2025



China
500.000 international students by 2020



Canada
450.000 international students by 2022



France
470.000 international students (20% increase in intake based on current levels)



Germany
350.000 inbound internationally mobile students by 2020



Japan
300.000 international students by 2020



Malaysia
250.000 international students by 2025



South Korea
200.000 foreign students by 2023



New Zealand
143.000 international students by 2025



Taiwan
58.000 foreign students by 2019



Ireland
44.000 foreign students by 2019/20

International Student Recruitment Targets (2013)

(Source: British Council)

**German Target:
350,000
international
students by 2020**



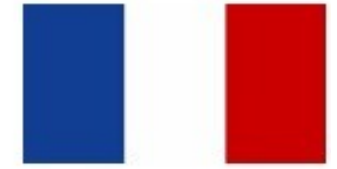
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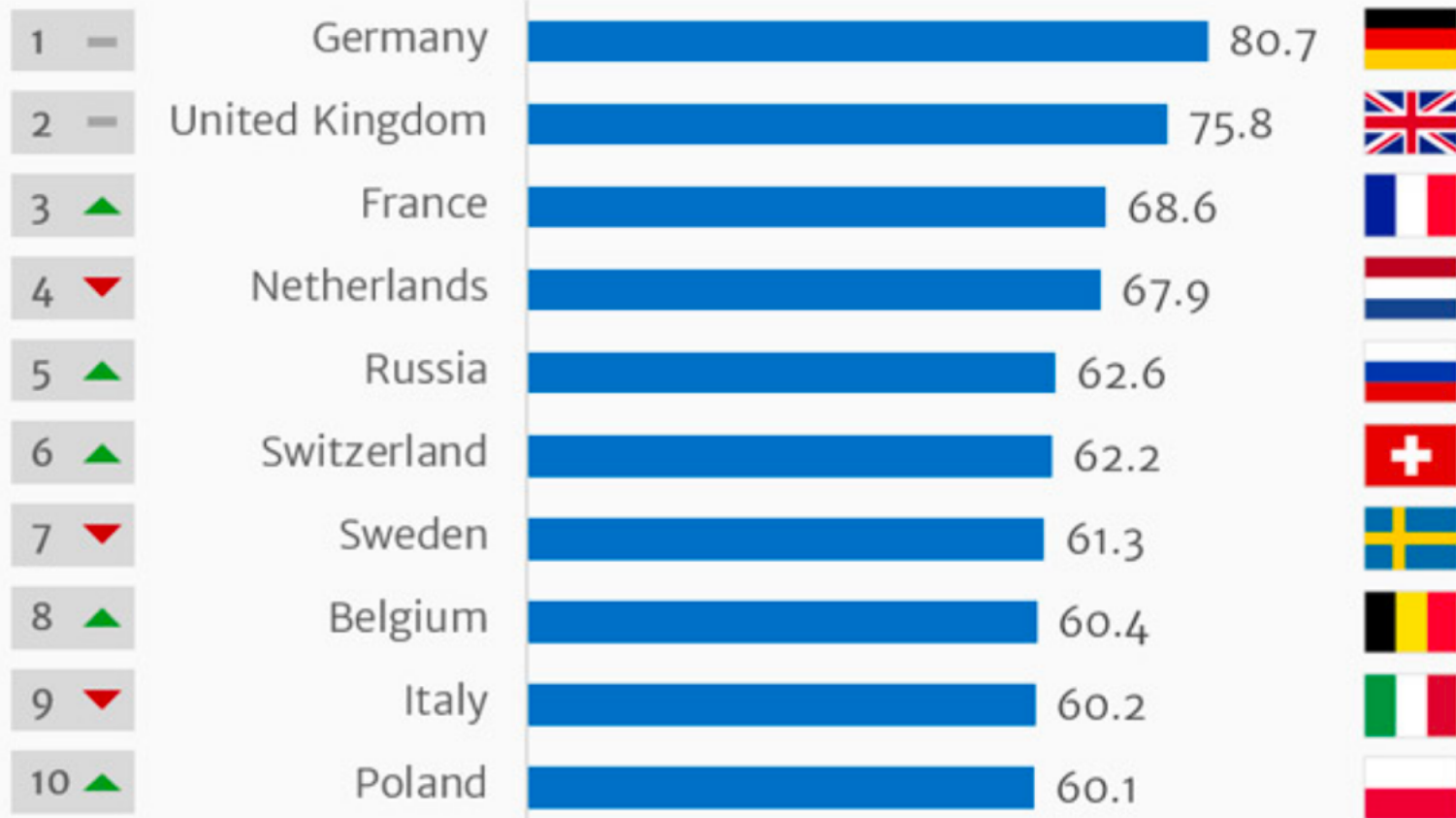
2017 German International Student Data

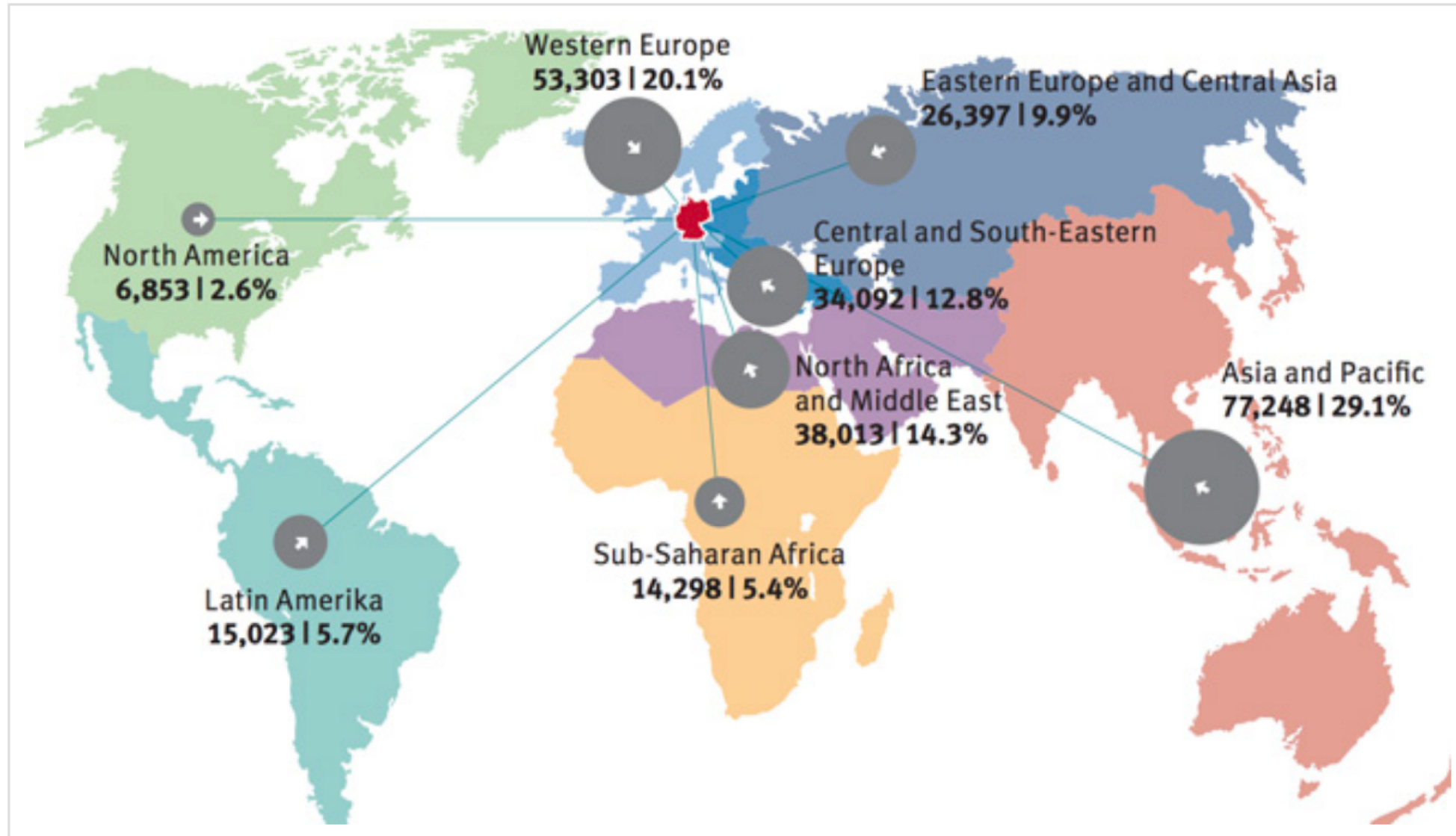
- **374,951** international students were enrolled in German higher education institutions
- International students represent **13% of the total number of the student population** in Germany
- **Since 2009/2010 the international students' community has grown by 53%** (244,775 to 374,951)
- In 2017 **one third of international students were studying Engineering.**
- *Federal Ministry of Education in Germany (<http://www.datenportal.bmbf.de/portal/en/2.5.77>)*

Study.EU Country Ranking 2018



Attractivity to international students – total score (out of 100)





Sending regions for Bildungsauslaender enrolments in Germany, 2017. Source: DAAD

Sources of International Students in German Universities (2017)

- China 12.8%
- India 5.4%
- Russians 4.5%
- Austrian 4%
- Italians 3.2%

Growth between 2016 – 2017

Chinese student numbers grew by 6.6%

Indian student numbers grew by 16%

Universities enrol roughly 70% of the foreign students

Phases of academic reaction to teaching international students

- **DENIAL:** ‘I teach. It’s up to them to learn’ ; ‘I teach Chemistry - Oxygen is the same everywhere’; ‘I didn’t admit this student’”
- **REPAIR** ‘These students can’t.....They don’t They aren’t motivated..’ [‘You fix them and then I’ll teach them’]
- **STUDENT ADAPTATION** ‘They want an education So they should be ready for our kind of education.’
- **TEACHER ACCOMMODATION & ADJUSTMENT** : These are my students: what do they bring? What do they need from me in order to succeed? What can I do to help them succeed?

Understand Confucian Reticence (Redmond 2014)

- “Students don’t ask questions because they don’t want to be involved – they are **afraid of being humiliated** in front of others. They are more likely to come to you after class or email you”
- “Many Chinese students ... feel **too shy or lack confidence to share opinions**. If you wait for answers or feedback, you’ll be disappointed”.
- “Chinese students **will not challenge teacher’s ideas**, they need motivation and encouragement”
- “If students don’t answer questions or take notes, **don’t take personally, it’s not about you**”.

Which matches the research on good teaching in general ...

- **Understand students' learning styles** - adapt teaching to meet those styles
- Use **different forms of assessment**
- Give students **background knowledge tests** (pretests) - use them to guide your teaching ;
- Use a **variety of teaching media**
- Present **verbal material in more than one way** and use many examples;
- Recommend or require **diverse out-of-class learning opportunities**.

An aerial photograph of a busy city street, likely in a European city, showing a grid of sidewalks and a central roadway. The image is heavily overlaid with a teal color, creating a monochromatic effect. The perspective is from directly above, showing the movement of people and vehicles as small, dark shapes on the grid.

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Educational Technology

How does technology influence how we teach?

Educational Technology – remember 2012/13?



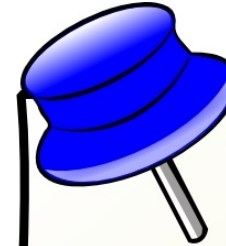
**Will MOOCs kill
university
degrees?**

*(Economist Oct
2013)*



**Is Coursera the
Beginning of the
End for Traditional
Higher Education?**

(Forbes July 2012)

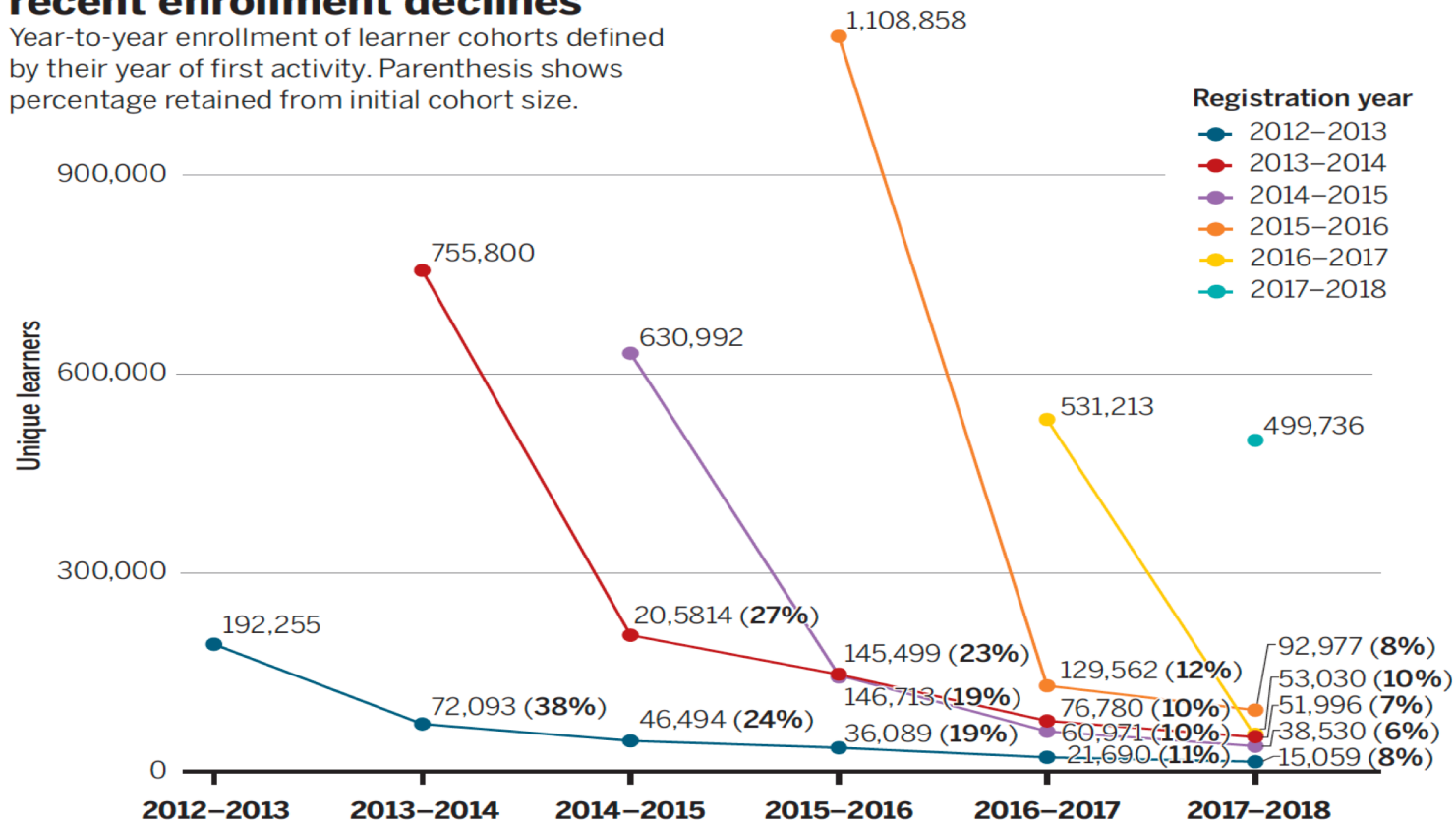


**From MOOCs to
HARVARDs: will online
go mainstream?** *(The
Conversation Oct
2013)*

MOOC Retention & Enrollment Decline

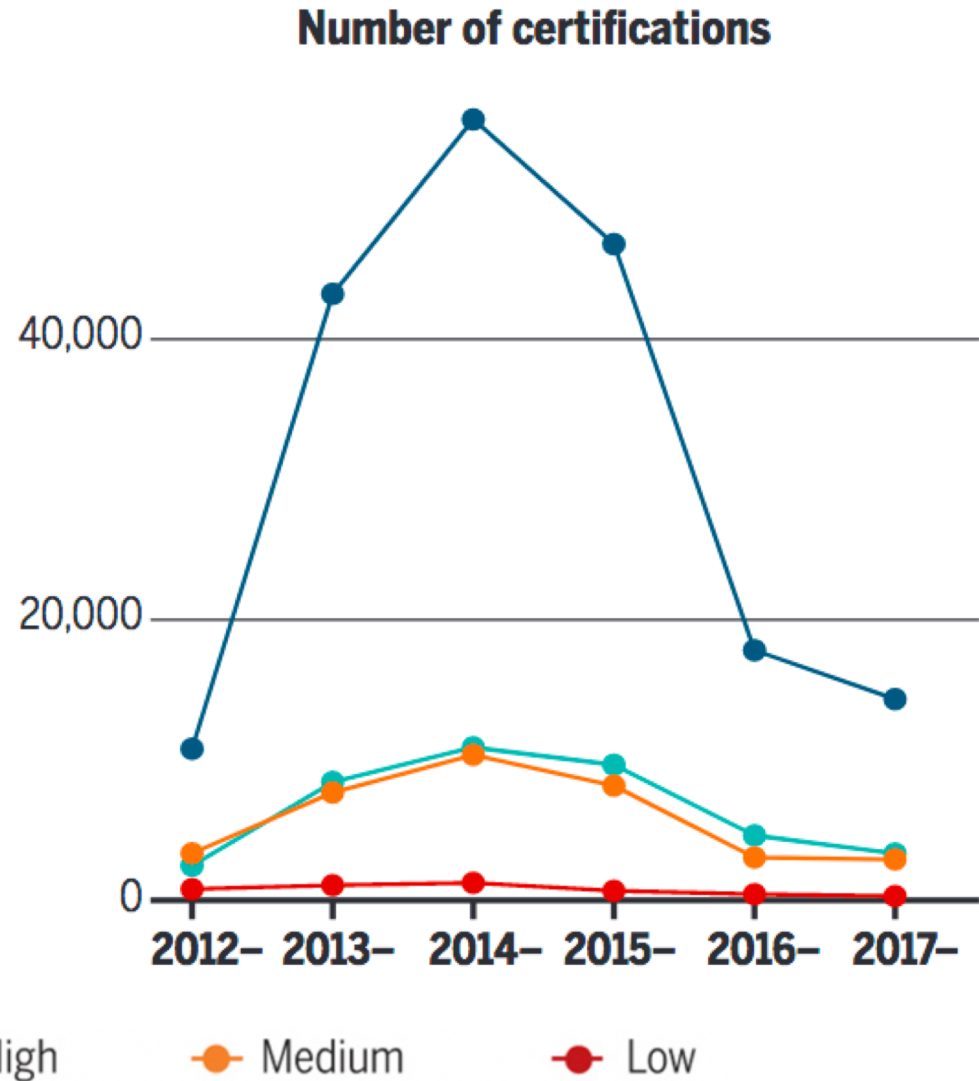
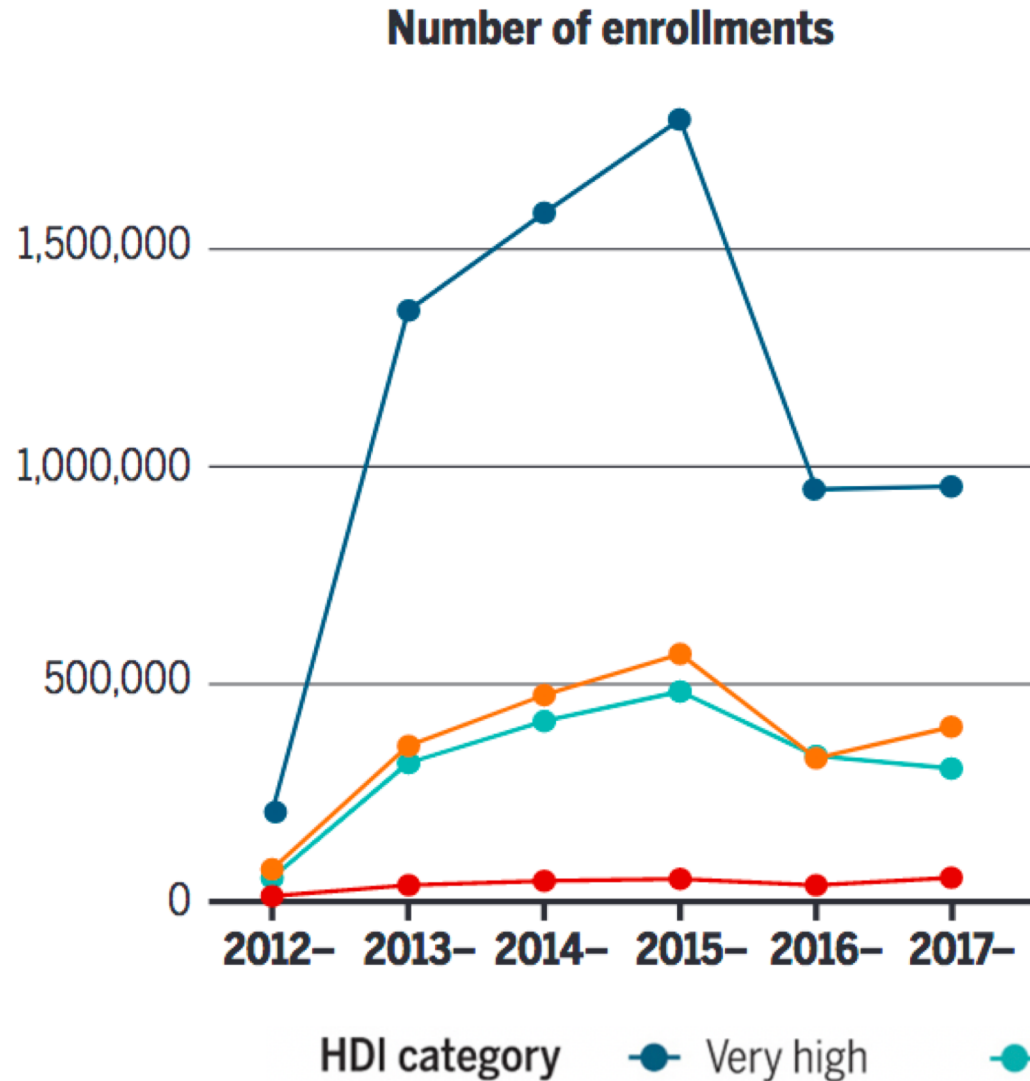
Consistently low retention and recent enrollment declines

Year-to-year enrollment of learner cohorts defined by their year of first activity. Parenthesis shows percentage retained from initial cohort size.



Disproportionate participation from affluent countries

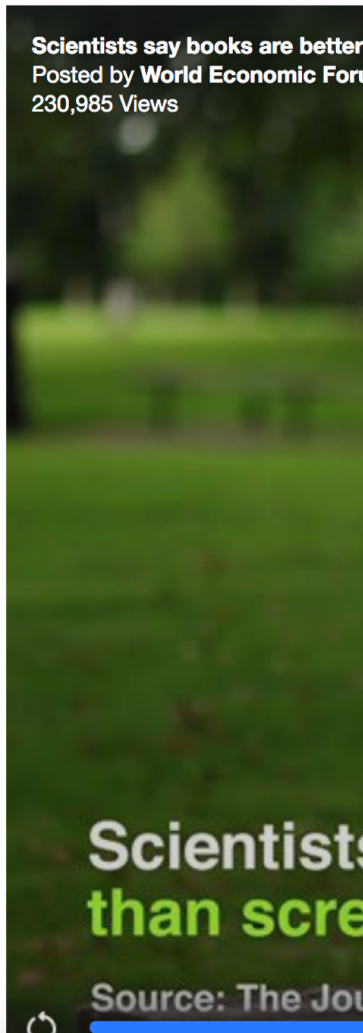
Number of enrollments and certifications per year divided into quartiles based on the UN Human Development Index (HDI) rating of each registrant's home country.



Myths and truths about educational technology

- **Educational Technology and teaching online is not a cheaper option** to face-to-face. Done well it is just as expensive.
- **Online learning allows students flexibility in their learning but** works best when part of a well-designed educational package
- **Students do not prefer fully online courses** and do not find it easy to motivate themselves to work completely alone
- **Students on the whole want a face-to-face university experience** .They come to college to become socialise in the learning process the process exposed to a variety of ideas and cultures. There is no online substitute for this process.

Scientists say books are better
Posted by World Economic Forum
230,985 Views

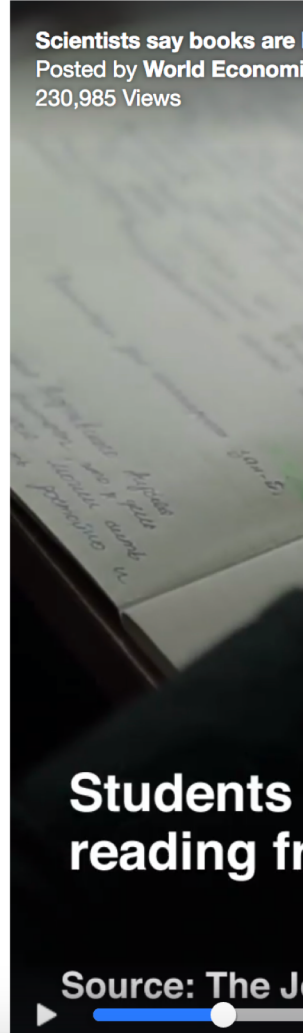


Scientists
than scre

Source: The Jo

Progress bar and play button icon at the bottom.

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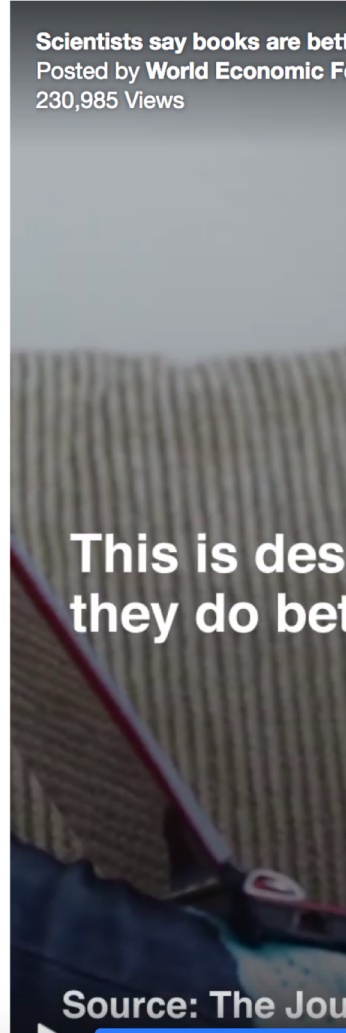


Students
reading fr

Source: The Jo

Progress bar and play button icon at the bottom.

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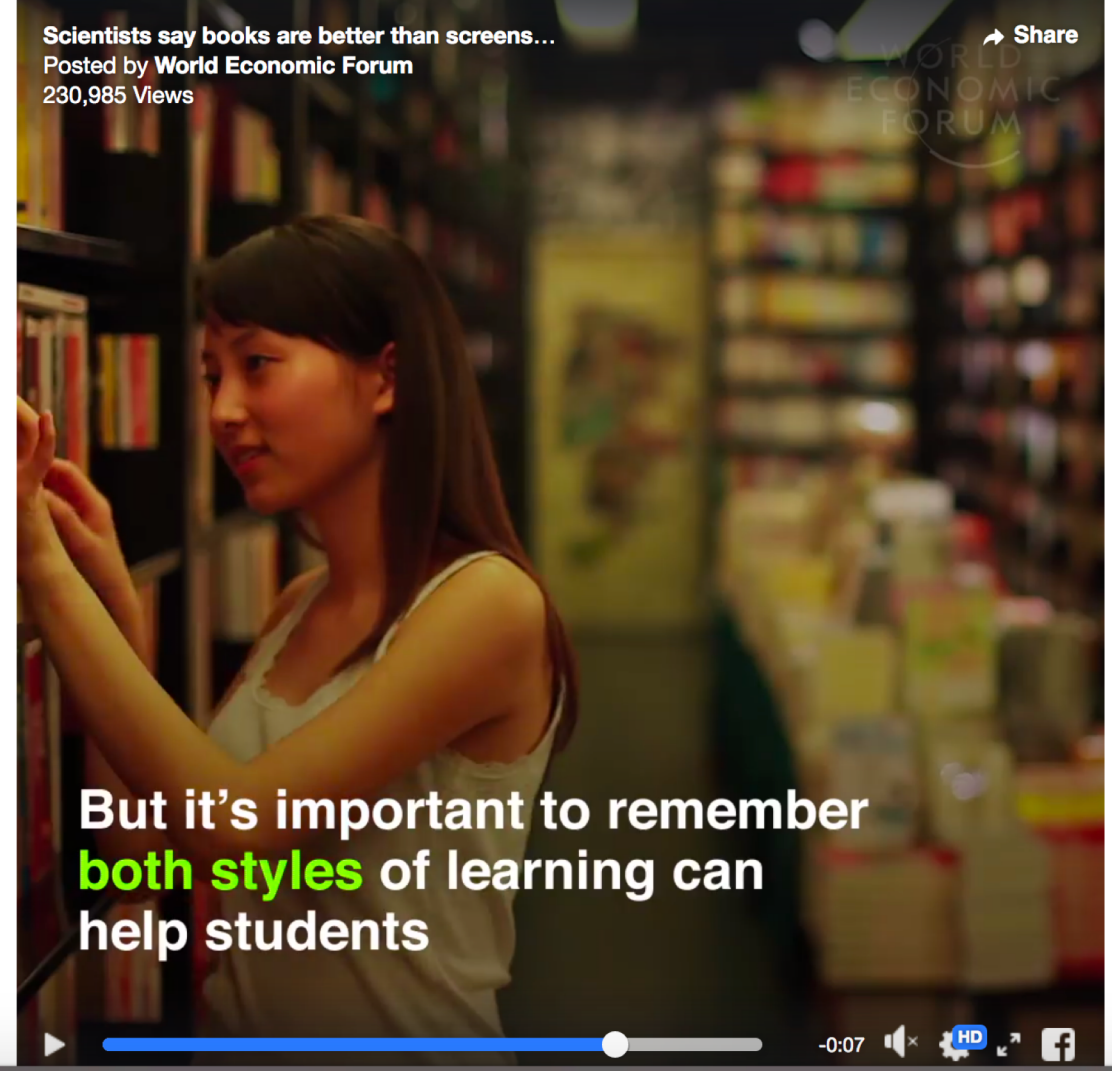


This is des
they do bet

Source: The Jo

Progress bar and play button icon at the bottom.

Scientists say books are better than screens...
Posted by World Economic Forum
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Share

WORLD ECONOMIC FORUM

But it's important to remember
both styles of learning can
help students

Source: The Jo

Progress bar, play button, volume, HD, and social media icons at the bottom.



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4th Industrial Revolution (4IR)

What do our students need to learn for the future?)

Industrial revolutions over time

1

Industrial Revolution (late 1700s)

- Rural, agricultural societies became more industrial
- Driven by the development of the steam engine



2

Industrial Revolution (late 1800s)

- New industries were powered by electricity and oil to create mass production
- The telephone, airplane, light bulb and gramophone were invented



3

Industrial Revolution (1980s)

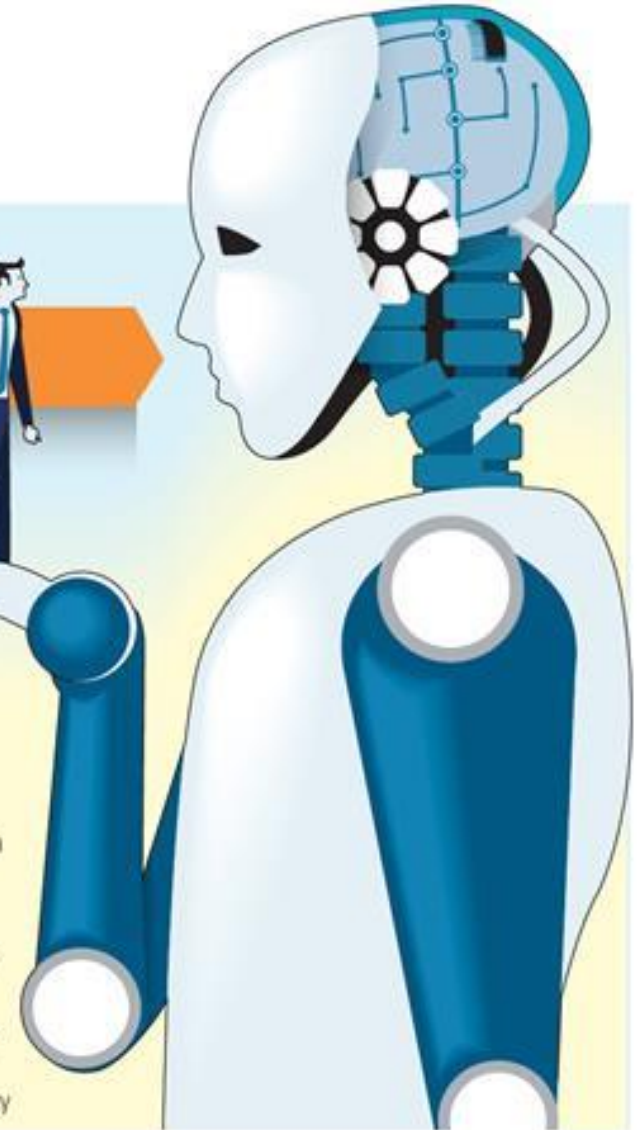
- Known as the digital revolution
- Analog, mechanical devices became digital
- Emergence of personal computers and the Internet



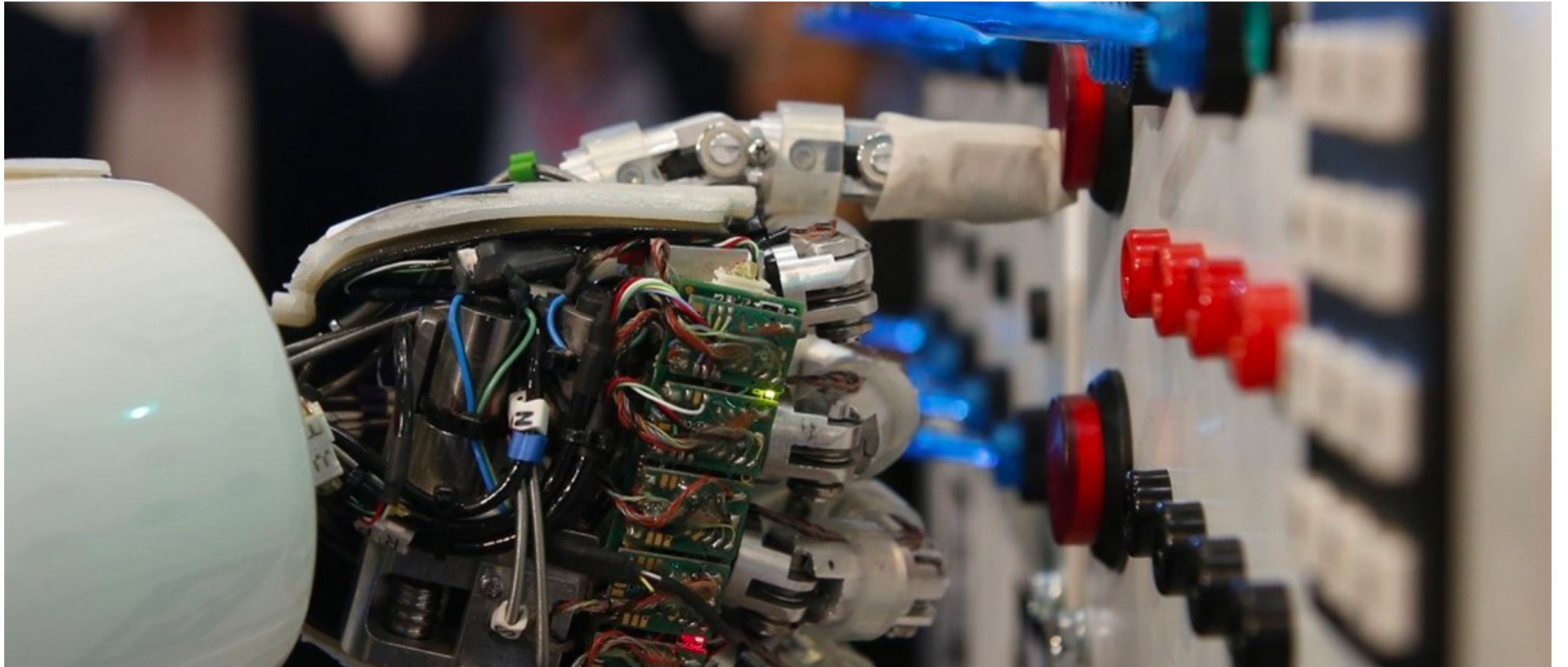
4

Industrial Revolution (present day)

- The blurring of lines between technology and our lives
- Technology becomes embedded in societies and the human body
- Examples of innovations are 3D printing, robotics, artificial intelligence and nanotechnology



**5 million jobs lost by 2020;
35% of core skills will change between 2015 – 2020 (World Bank)**



AREAS OF LOSS

- **Routine, repetitive and predictable** (manufacturing, logistics and retail and wholesale)
- **'secure jobs'** - office workers, banks, administrative personnel, even law,
- **Big data analysis**, such as credit analysts, financial advisers, mathematical technicians

AREAS OF GROWTH

- Jobs with **level of human interaction** or guiding robot behaviour
- Building **complex relationships with people**, especially customer-facing jobs,
- Jobs that are **unpredictable** emergency management directors and repairers.
- **Education and Training** as people need to shift occupational categories and learn new skills. Many may have to re-train several times during their working life.

@refthinking

(SOURCE: FUTURE OF JOBS REPORT, WORLD ECONOMIC FORUM)

TOP 10 SKILLS IMPORTANT IN THE WORKFORCE

2015

2020

1. Complex Problem Solving



2. Coordinating with Others



3. People Management



4. Critical Thinking



5. Negotiation



6. Quality Control



7. Service Orientation



8. Judgement and Decision Making

9. Active Listening



10. Creativity



1. Complex Problem Solving



2. Critical Thinking



3. Creativity



4. People Management



5. Coordinating with Others



6. Emotional Intelligence



7. Judgement and Decision Making



8. Service Orientation



9. Negotiation



10. Cognitive Flexibility



How will 4IR impact what we teach?

- **Knowledge Transfer** – preparing students for adaptability and change
- Increase opportunities to study in a **liberal arts framework**
- Blending technology with understanding of how it impacts people – **increasing intercultural and interpersonal skills**
- Curricula that emphasize **interconnections between subjects and systems**

How will 4IR impact how we teach?

- **New blends of delivery** – using ed. technology in blended approaches, flipped classrooms, online + laboratory work; opportunities for applied student research
- Increasing **self-directed learning** with emphasis on **creativity**
- **Building critical thinking and cognitive flexibility** in students
- Teach for **adaptability, flexibility and change**
- **Teach and assess in teams** and teach **teamwork**
- **Re-sequence when students study**, allow exit and re-entry for upskilling and 're-invention'.

How are U21 members teaching for 4IR?










- **Curriculum Design** for information transfer
- **Authentic Assessment**
- **Co-creation of Learning** with students
- **Students as Researchers**

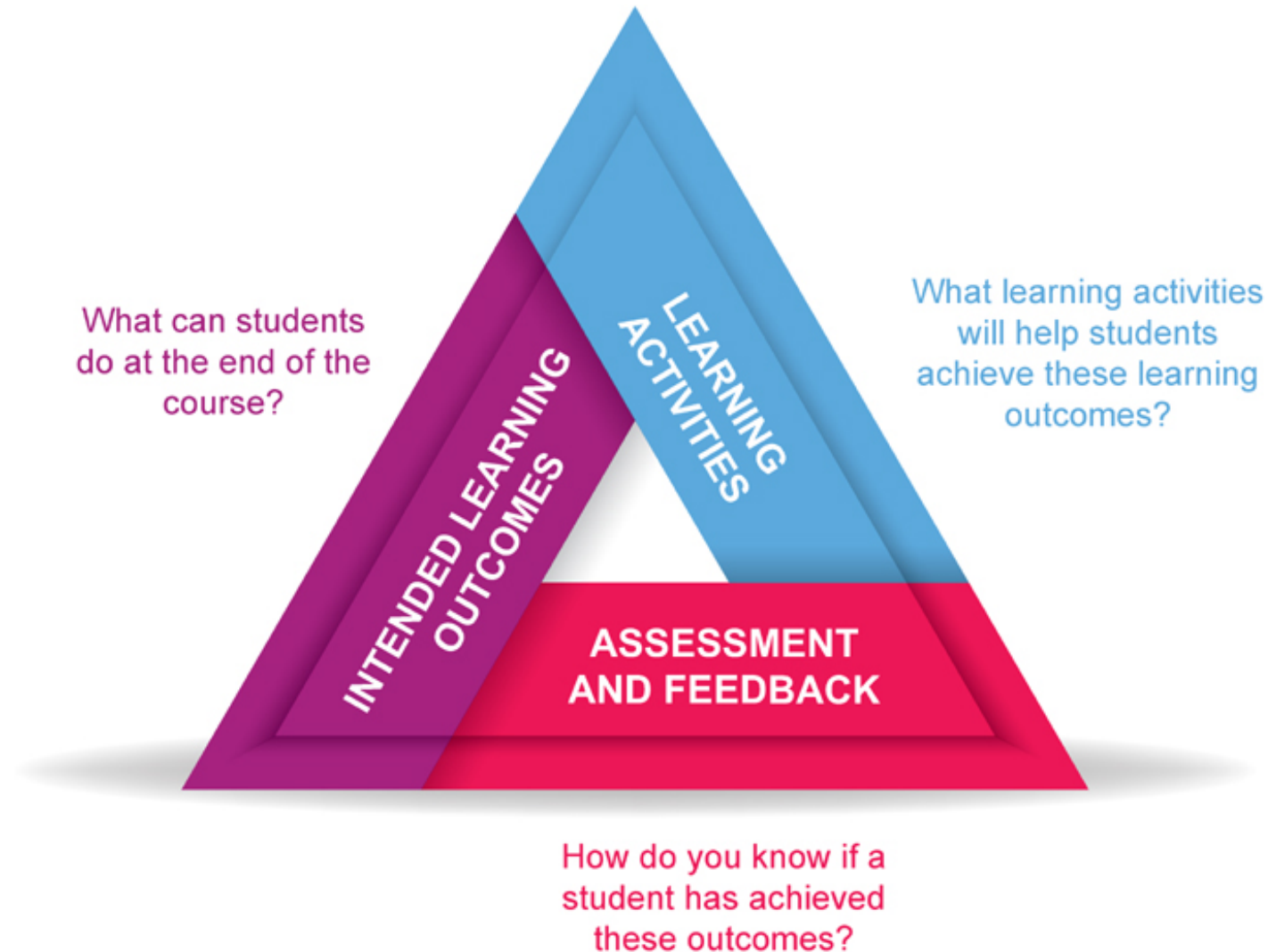
1. Effective Curriculum Mapping should...

- Reduce teaching and assessment overloads (for staff and for students)
- Better identify transferable knowledge & skills
- Make teaching and assessment more effective overall,
- See if anything important is being accidentally passed over during the course of a degree.

Curriculum Mapping (UNSW Australia): Course learning outcomes to Programme learning outcomes

CLOs \ PLOs	PLO1	PLO2	PLO3	PLO4	PLO5
CLO1					
CLO2					
CLO3					
CLO4					
CLO5					

2. Start and End with Authentic Assessment.



Authentic Assessment should be:

- Be in the form of a **performance or product**.
- Ensure **transfer of knowledge**.
- **Challenge** students
- Expect and ensure **accuracy in assessment performance**.
- Have **feedback** formally designed into authentic assessments.
- Ensure that the assessment contains integral collaborative (**teamwork**) aspects

Examples of Authentic Assessment (U. of Birmingham)

- **Write a grant proposal**, or review an actual grant proposal
- Explain basic concepts/prepare learning material for **more junior students**
- **Write a policy brief** for government – better still, actually submit the best ones.
- Give students a **draft academic article and reviewers' comments** and ask them to revise and resubmit with a response letter.
- **Organise a poster conference**, and then assess each other's contributions?
- **Produce videos, blogs or events** for the wider population outside of the university

3. Co-creation of Learning with students

Student Choice

- Content
- Pedagogy
- Assessment

Peer-teaching

- Student-led presentations
- 4th years teach 2nd years
- Student designed resources

Co-creation as course unfolds

- Co design of content, marking
- Co-design of projects and assessment

Example of co-creation of learning (University of Edinburgh)

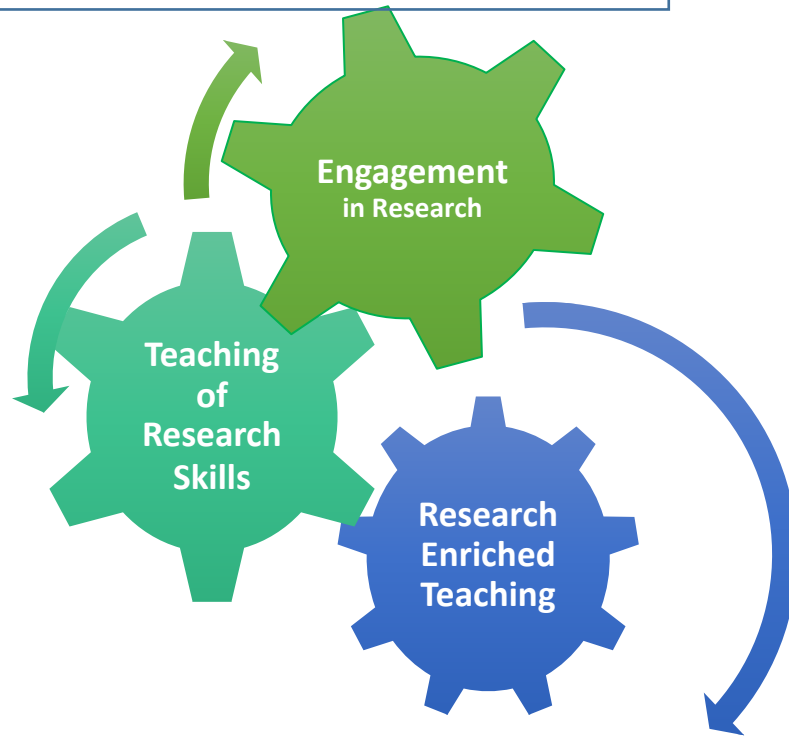


4. Students as Researchers

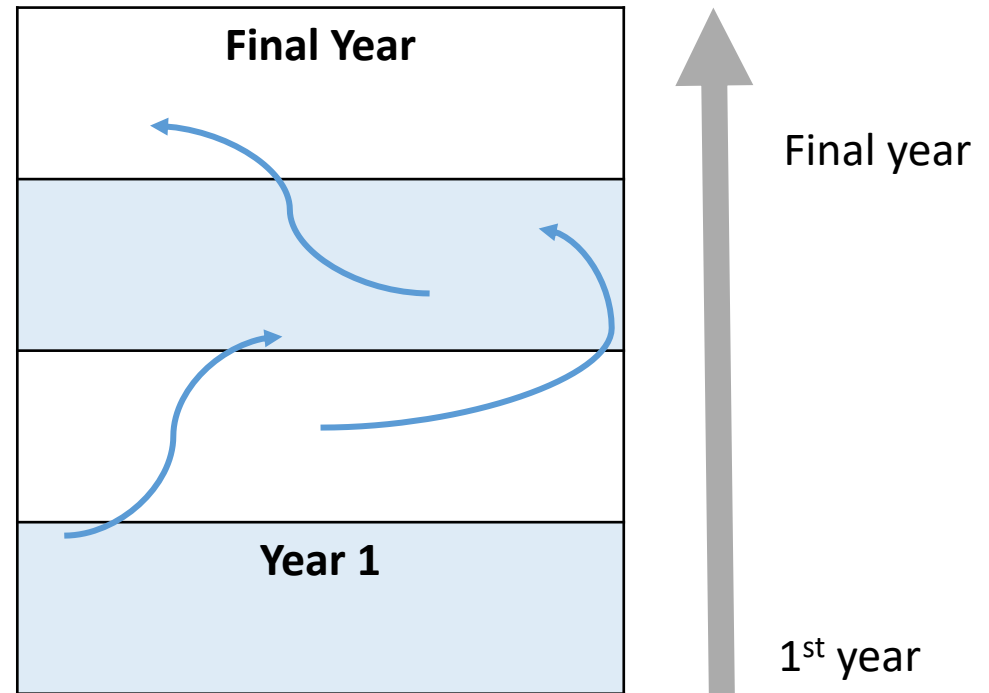
Results of research into both staff & students' perception of the nature and usefulness of undergraduate "Research-Informed Teaching"

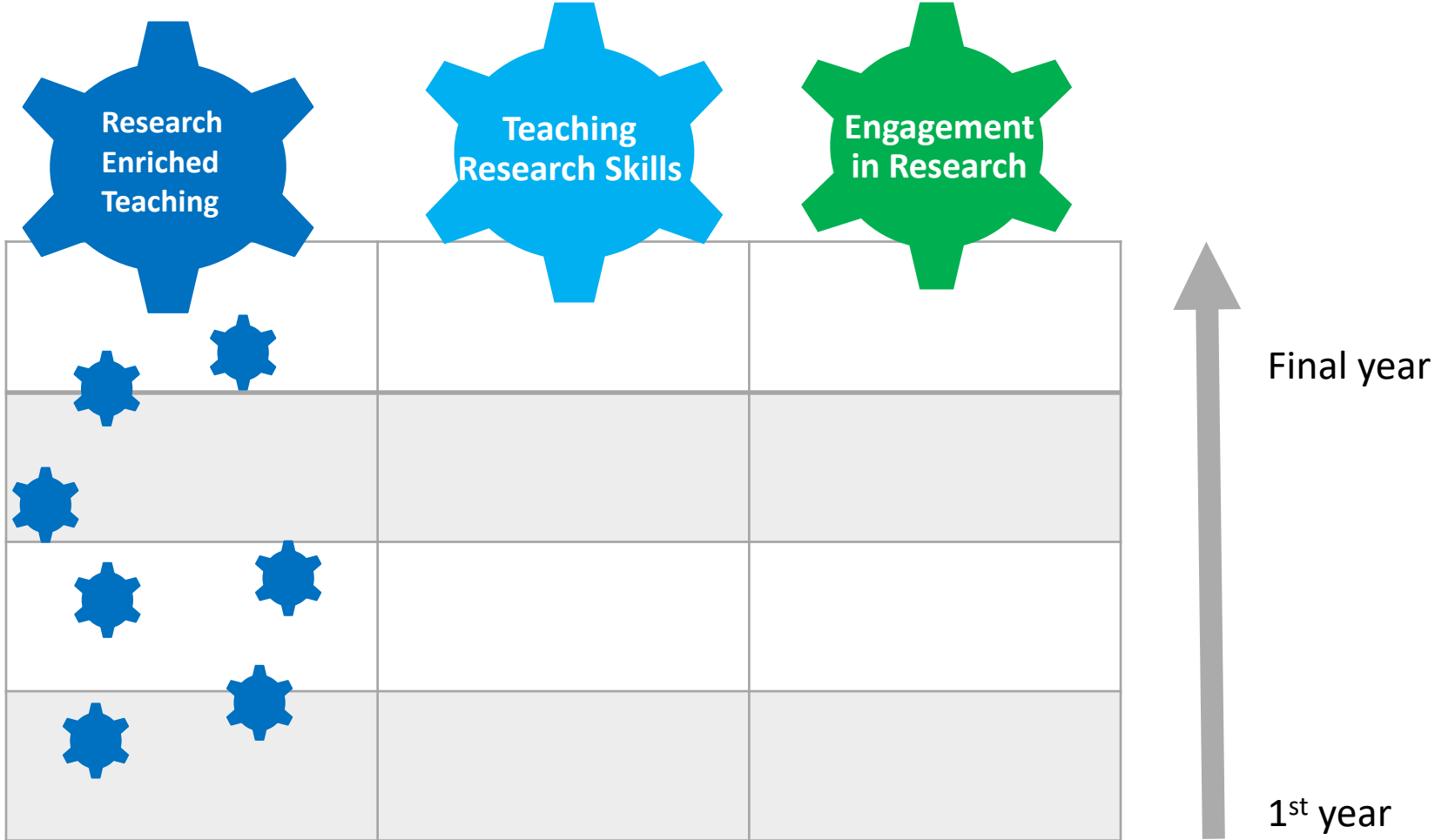
(University College Dublin)

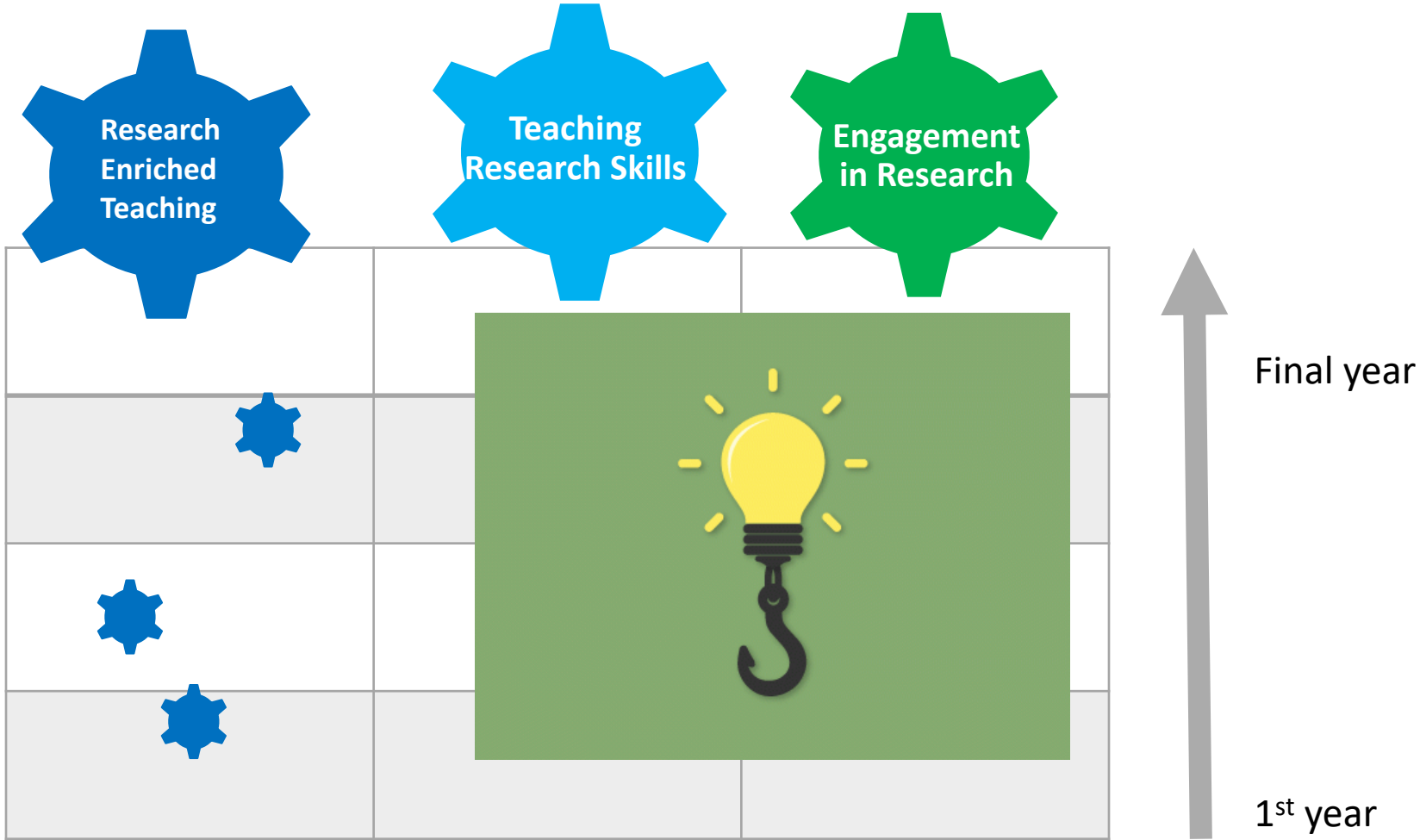
STAFF PERSPECTIVES



STUDENTS' PERSPECTIVE







Research
Enriched
Teaching

Teaching
Research Skills

Engagement
in Research

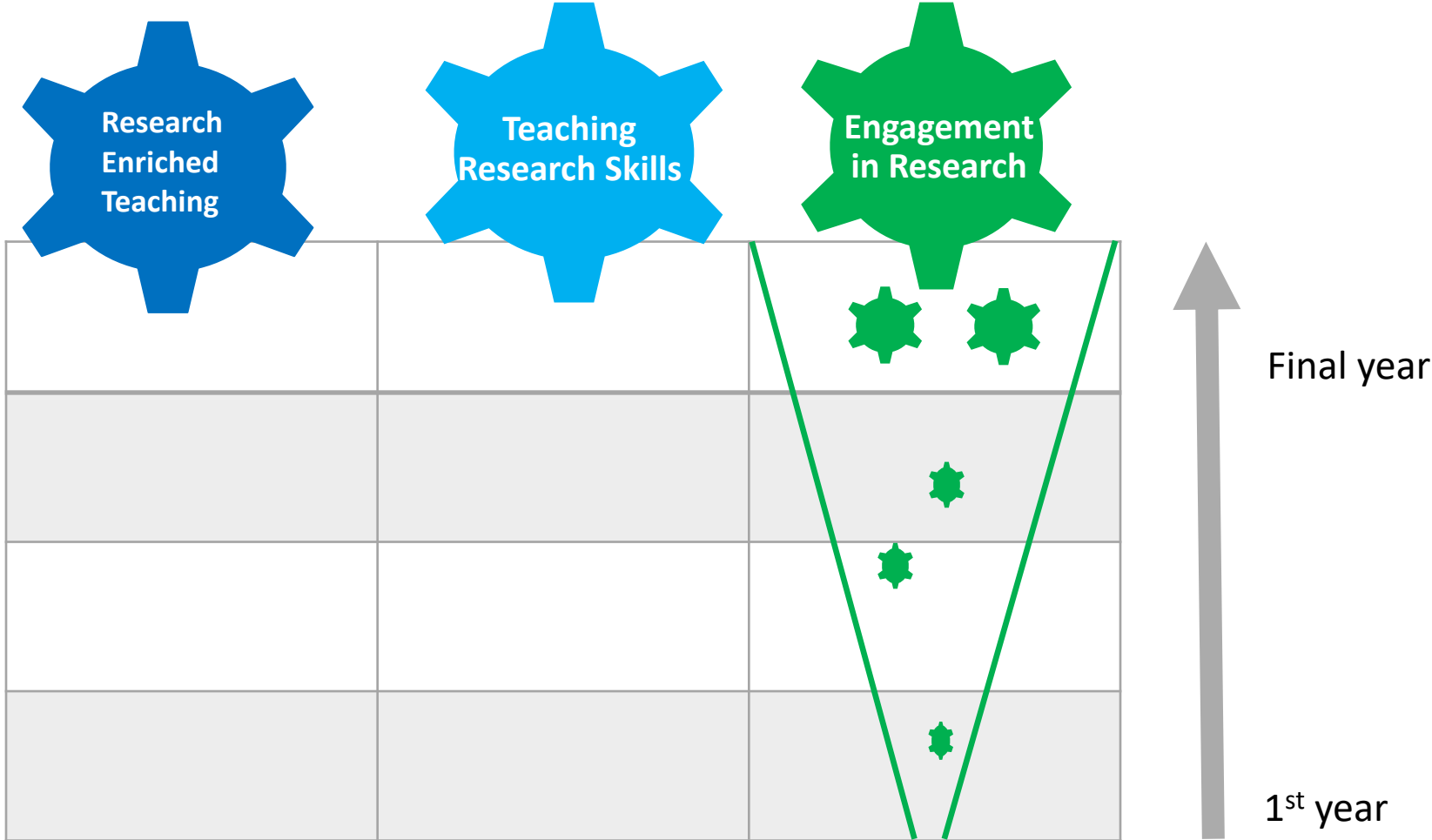


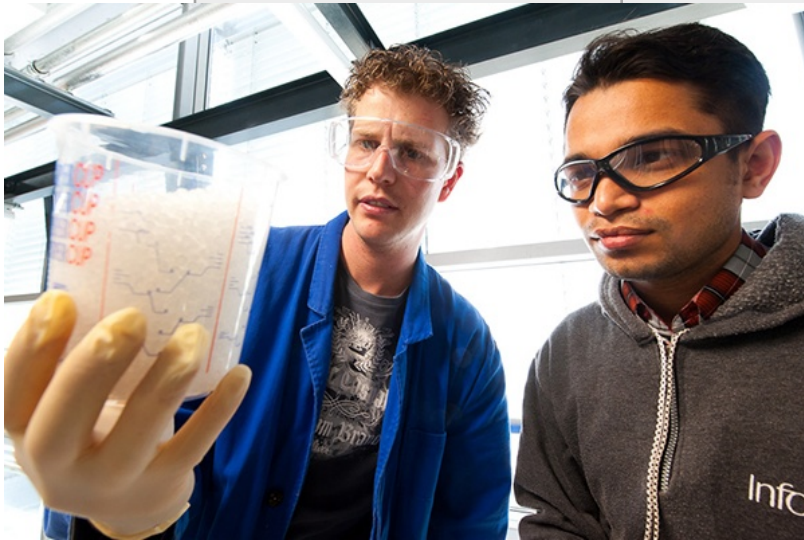
	Research Enriched Teaching	Teaching Research Skills	Engagement in Research
	⚙️		
	⚙️		
	⚙️		



Final year

1st year







<p>STAFF STUDENTS (WITH BRAIN HOOKS!) LOW COST, HIGH STUDENT IMPACT WHEN WELL-TIMED WITH SPECIFIC STUDENT LEARNING</p>	<p>STAFF ? STUDENTS ? MEDIUM COST/LOW IMPACT. INFREQUENTLY CONNECTED WITH OPPORTUNITIES TO APPLY THEORY TO PRACTICE</p>	<p>STUDENTS STAFF HIGH COST/HIGHEST IMPACT. OPPORTUNITY TO ENGAGE IN AUTHENTIC RESEARCH RESULTS IN TRANSFORMATIONAL LEARNING.</p>

Final Thoughts

We are in a period of very rapid society and demographic change **BUT** Universities change very slowly (and hate change).

Respect for teaching at university declining **BUT** teaching will be a major driver of preparing graduates for changing future

Future success in university education will be **IN PARTNERSHIP** students at different times and in different ways

“Education is a social process; education is growth; education is not preparation for life but is life itself.”

— John Dewey

Useful sources of further information

- Bovill, C. (2014). An investigation of co-created curricula within higher education in the UK, Ireland and the USA. *Innovations in Education and Teaching International*, 51(1), 15 - 25.
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- HEA. (2015). Students as partners. Retrieved from <https://www.heacademy.ac.uk/enhancement/themes/students-partners>
- UNSW Integrated Curriculum Framework <https://teaching.unsw.edu.au/about>
- Authentic Assessment in Irish Higher Education. National Forum for the Enhancement of Higher Education Insights. Retrieved from: <https://www.teachingandlearning.ie/publication/authentic-assessment-in-irish-higher-education/>
- Gleason, Nancy W. (Ed.) *Higher Education in the Era of the Fourth Industrial Revolution*, Palgrave Open Access Retrieved from <https://www.palgrave.com/us/book/9789811301933>

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