



University of  
Zurich<sup>UZH</sup>

Information Technology / Multimedia & E-Learning Services

# Overview of current trends in e-learning and institutional strategies in European higher education

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Image retrieved from: <http://www.uzbekistan.de/de/information/wissenschaft-bildung/bildung-garant-der-zukunft>, accessed 19.10.16



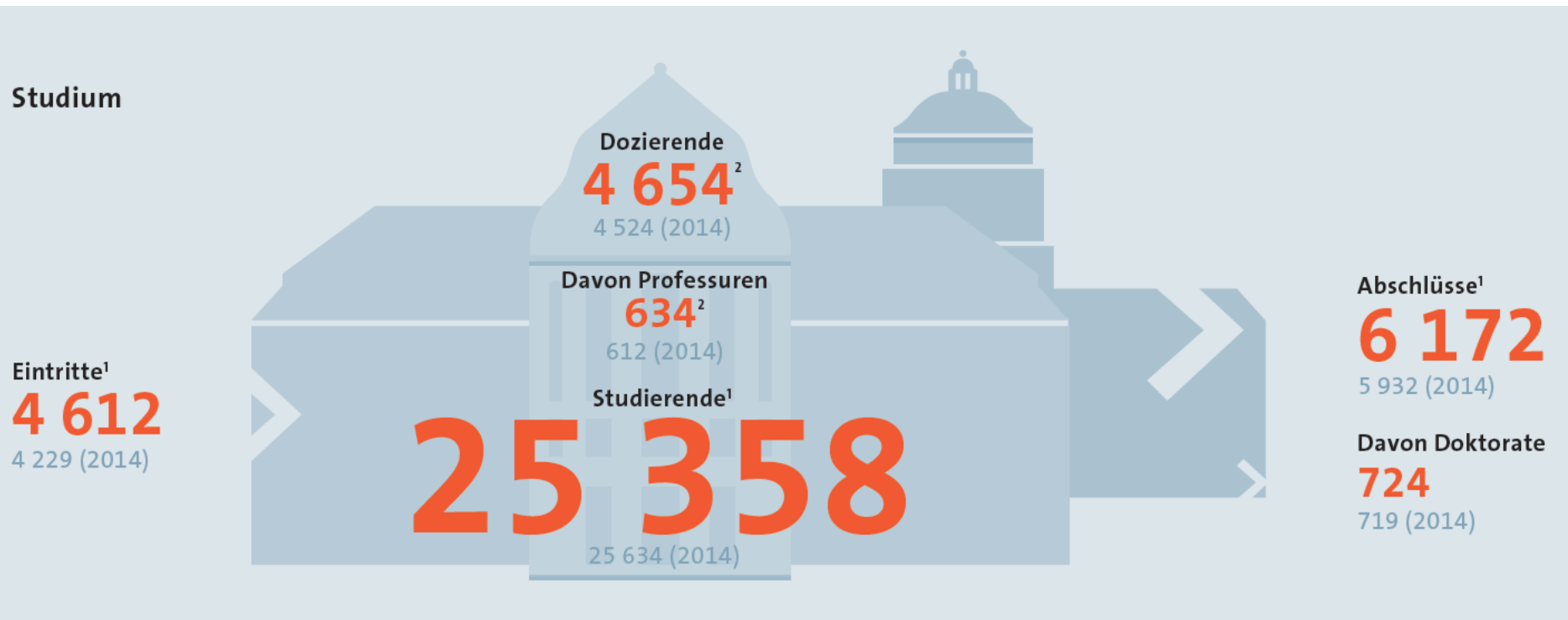
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## University of Zurich: Key numbers 2015

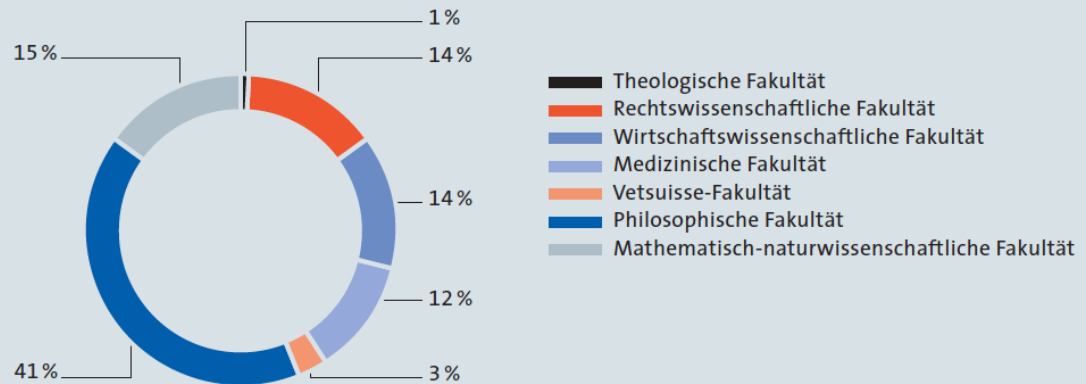




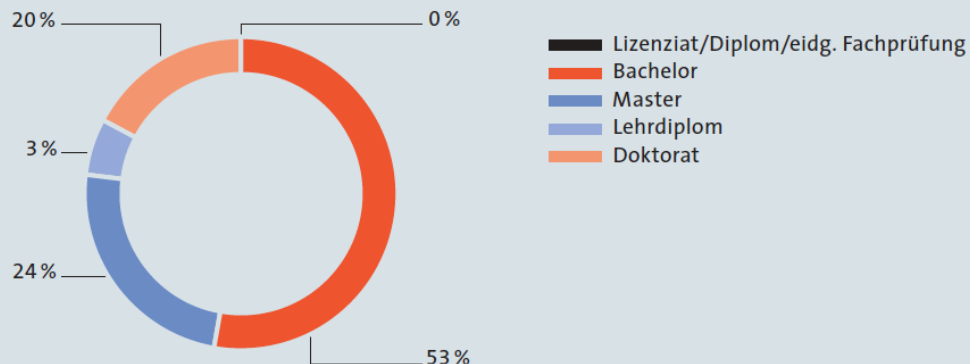
## Faculties and Students per Faculty, 2015

- Theology
- Law
- Economy
- Medicine
- Veterinary
- Arts
- Sciences

Studierende nach Fakultät, HS 2015



Studierende nach Studienstufe, HS 2015



- Bachelor students
- Master students
- Teaching diploma
- Doctoral students



## Relevant e-learning networks

- Switzerland:
  - SWITCH eduhub: E-Learning Technology Working Group (community of e-learning professionals of all Swiss HEIs).
- Europe:
  - GMW: Society of Media in Science (community of e-learning professionals working in academic institutions in of Germany, Austria and Switzerland).
  - LERU: League of European Research Universities, E-Learning Thematic Group (a working group of e-learning professionals from 22 European research intensive universities).



Eduhub

<https://www.eduhub.ch>



GMW

<http://www.gmw-online.de/index.html>



LERU

<http://www.leru.org/index.php/public/hom>



## My goals in this TAM

- **Overview** of present e-learning challenges, solutions and trends in HEI
- Provide **recommendations**, suggestions, further reading, information sources etc.
- Questions and discussion
  - Overview of current trends in e-learning and institutional strategies in European higher education
  - Successful universities using e-learning tools in Europe and the case of University of Zurich



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# **INTRODUCTION**

## **ADVANTAGES OF DIGITAL MEDIA IN TEACHING AND LEARNING**

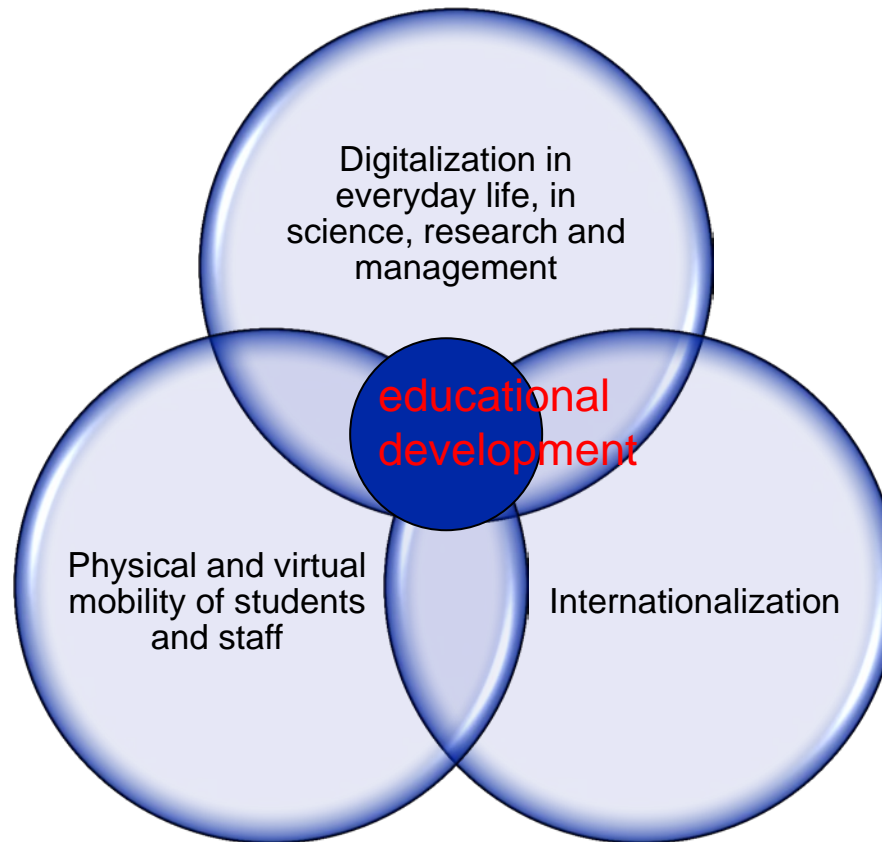
### **STRATEGY BUILDING: CORE QUESTIONS**

### **CURRENT TRENDS OF MEDIA USE AND TOOLS**

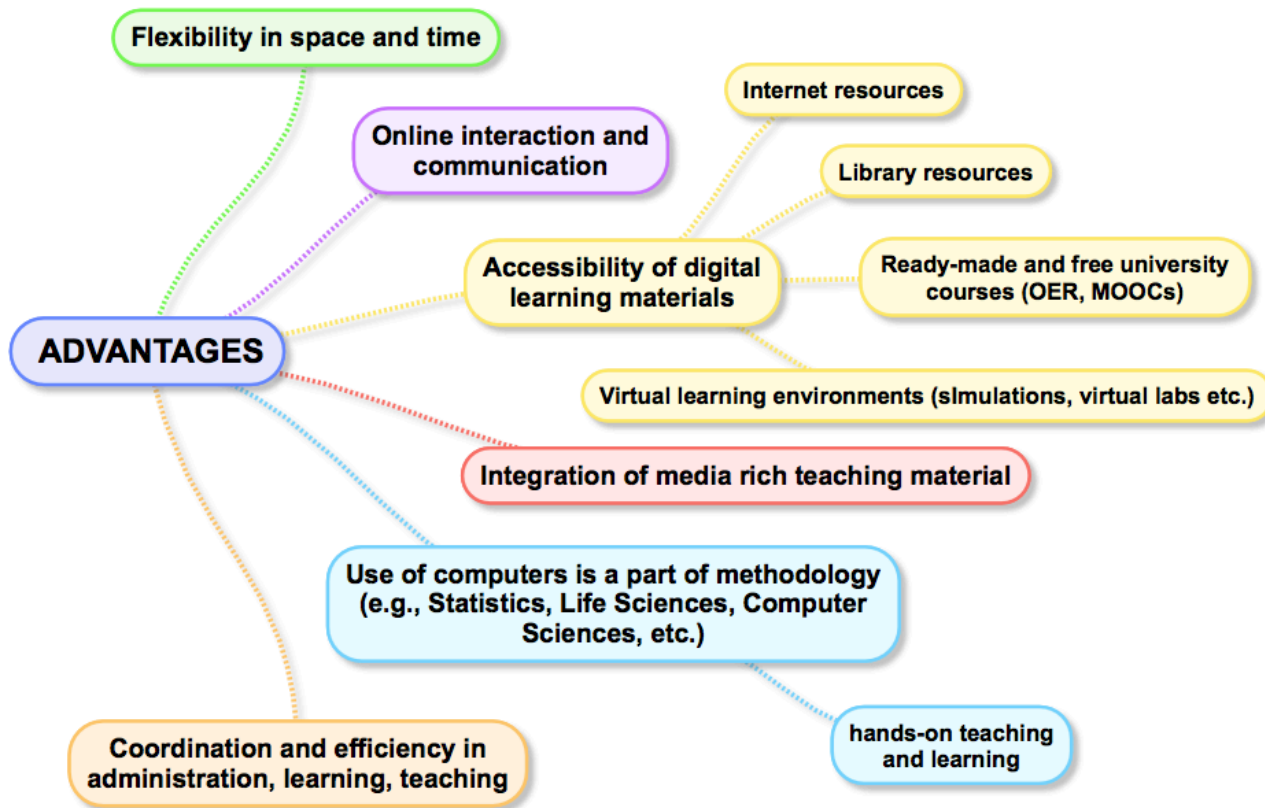




## Drivers of change for university teaching



## Universities *must* use the advantages of digitalization complementary to the advantages of study on campus





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**STRATEGY BUILDING: CORE QUESTIONS**

**CURRENT TRENDS OF MEDIA USE AND TOOLS**



## Strategy building for e-learning: Core questions

- **Situation analysis**, what are our present achievements, urgent needs and pressing problems in teaching and learning?
- **Target group definition**, who are our students (e.g., young learners, working adults?), where are our students (on campus, off campus, mixed)?
- **Learning goals**, what should the students learn?
- **Pedagogy**, what kind of teaching do we need in our subjects?
- **Technology**, what digital infrastructure and services do we need?
- **Budgeting**, how much does it cost, is it affordable?
- **Benchmarking and change management**, how to assess and improve?



## Strategy building for e-learning: Finding answers

- **Situation analysis** – survey, round table with stakeholders
- **Target group definition** – define present and intended in future
- **Learning goals** – use Bologna framework, adapt curricula according to Bologna reform
- **Pedagogy** – design teacher development program
- **Technology** – evaluate and choose digital infrastructure, run pilot projects, design services
- **Budgeting** – check costs and cost saving possibilities
- **Benchmarking and change management** – exchange with peers, assess your institution using e-learning quality frameworks, improve step by step



## Exchange with peers: UZH and LERU

League of European  
Research  
Universities LERU

21 Research-  
intensive universities

Founded 2002

HOME CONTACT MEMBERS' ACCESS SEARCH

# LERU

About Activities Publications Global Network News Calendar

### News

**Report on European Open Science Cloud now launched!**

**Citizen science at universities: Trends, guidelines and recommendations**

**LERU and Central-European universities team up for better research & education policies**

**Cambridge alumni win 2016 Nobel Prize in Physics**

### Calendar

21 October 2016  
**LERU's Interim Evaluation of H2020**

24 October 2016  
**EG on Animals Used for Scientific Purposes meeting in Zurich**

27 October 2016  
**LERU Alumni Chapter in London**

28 October 2016  
**Alumni Group meeting at ICL**

07 November 2016  
**Launch event: Citizen science at LERU universities**

**LERU MEMBERS**

**LERU's Interim Evaluation of Horizon 2020**

**Citizen science at LERU universities: trends, guidelines and recommendations**

Tweets door @LERUnews

LERU heeft gerebweet

Laura Keustermans @LKeustermans

Full house for introduction of Vice-Rector Besters-Dilgers at @LERUnews Senior Officers meeting hosted by @UniFreiburg



## LERU member universities





## Strategy paper of LERU: Online Learning at research-intensive universities

Advice paper, addressing open questions in:

- Future of blended learning
- Online pedagogy and quality
- Global and international perspective
- Reputation and brand
- Business models
- Collaboration
- Policy making

Appendix with recommendations to university boards

[http://www.leru.org/files/publications/  
LERU\\_AP16\\_Online\\_Learning\\_at\\_RIUs\\_final.pdf](http://www.leru.org/files/publications/LERU_AP16_Online_Learning_at_RIUs_final.pdf)



## This is how strategy building basics might look like if you start ...



## ... and after a while





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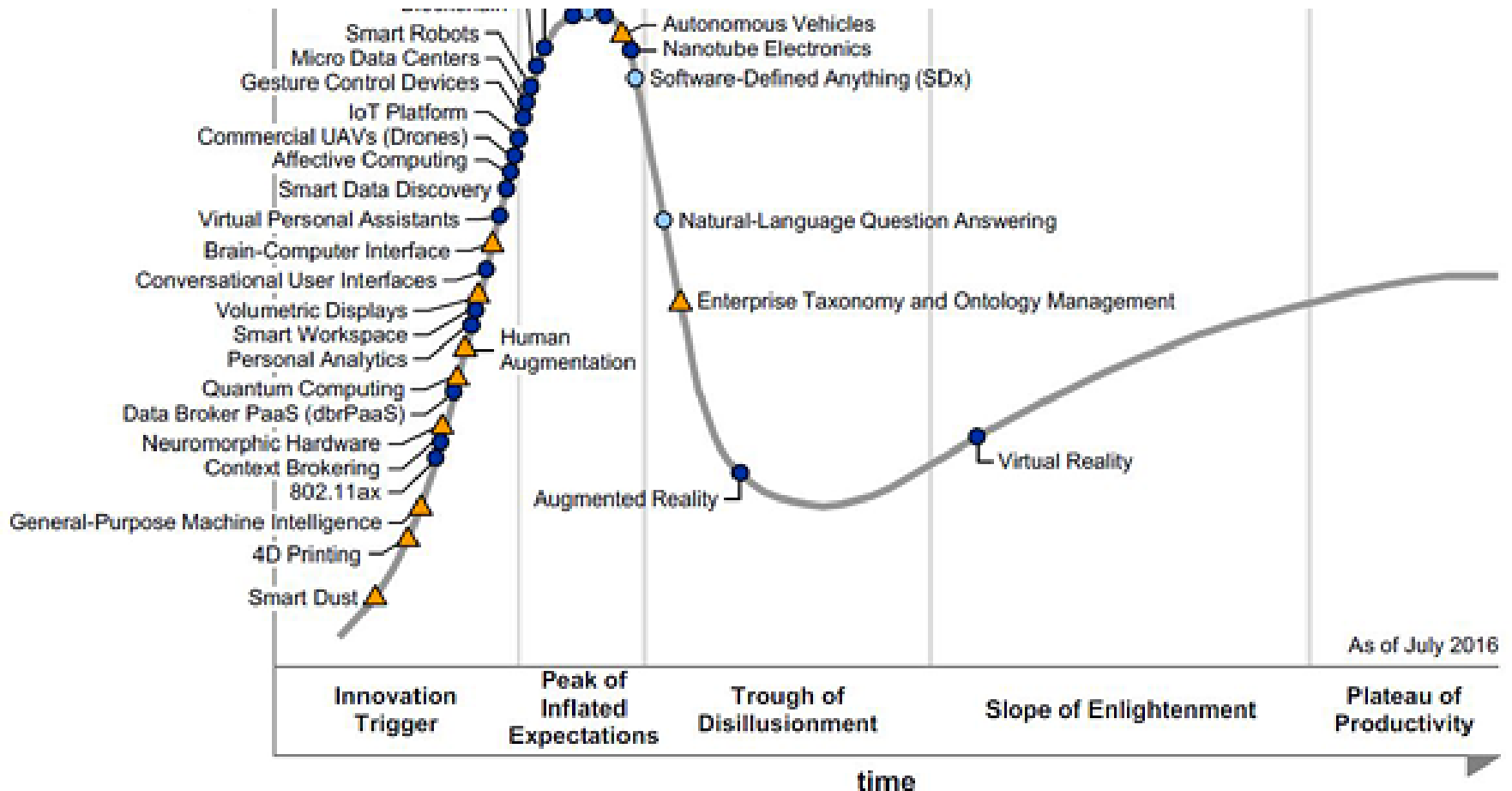
**INTRODUCTION**

**ADVANTAGES OF DIGITAL MEDIA IN TEACHING  
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## Trend? Which trend?

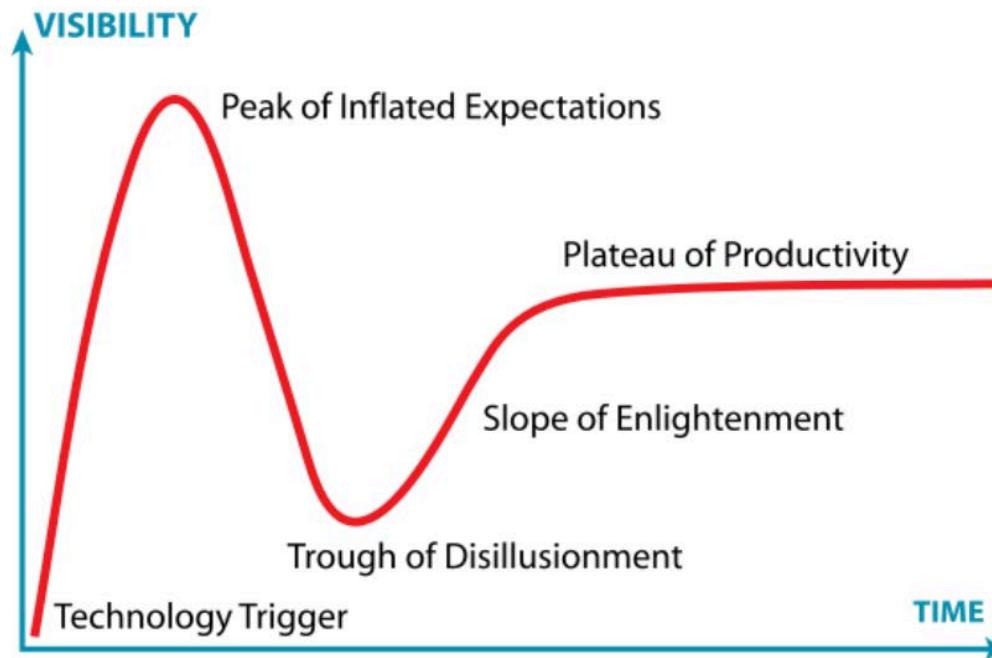


Years to mainstream adoption:

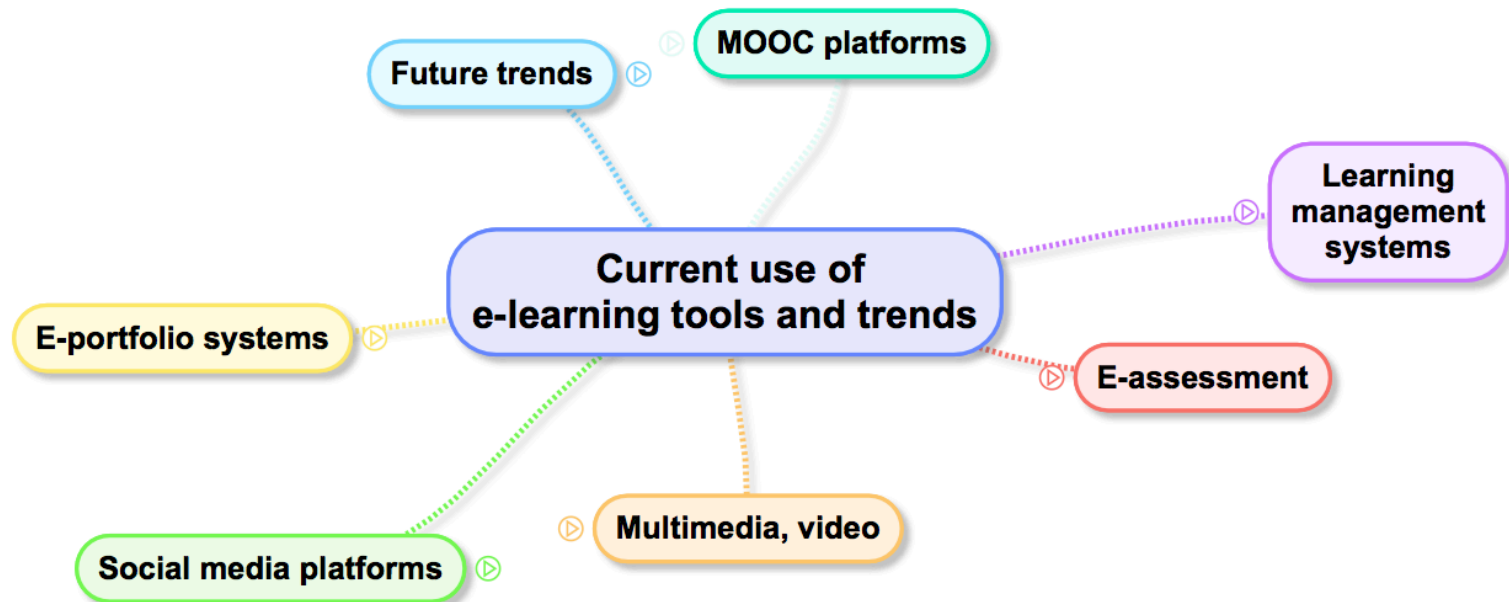


## Locating technology innovations

### Gartner Hype Cycle



## UZHs areas of current practice and trends





## **Main fields of practice and development @ UZH**

We are investing in the development of

- MOOCs
- Flipped classroom
- E-Assessment
- LMS development, integration with other systems (e.g. streaming video platform)
- Multimedia and video use in teaching and learning

We expect to be working soon in context of

- Artificial Intelligence (e.g. automated essay grading)
- Augmented and virtual reality (mobile apps, virtual learning environments)
- Wearable computing (Google Glass, activity trackers etc.)

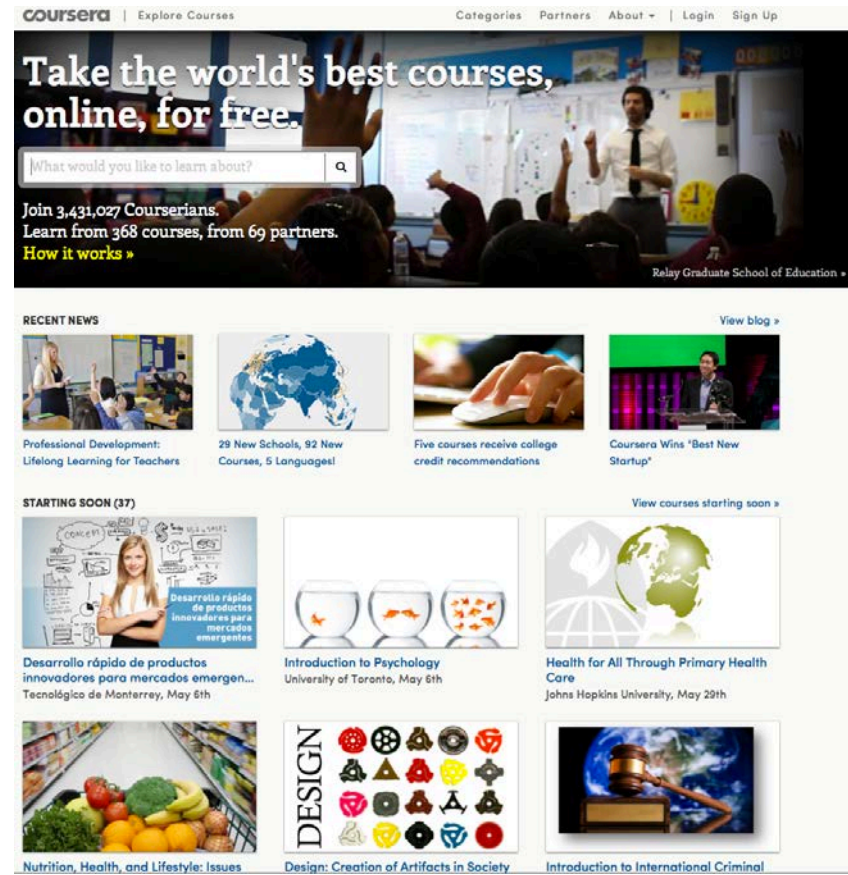


## Can MOOCs help to innovate on campus teaching?

<b>M</b>	Massive	many participants, no limit of participants' number
<b>O</b>	Open	for everybody, no formal prerequisites, open educational resource
<b>O</b>	Online	Course content, communication and interaction via WWW
<b>C</b>	Course	content is offered in course format, with start date, due assignments, end date
<b>xMOOC</b>		x for extended
<b>cMOOC</b>		c for connectivist

## MOOC-Platform Coursera

- 2011, autumn
  - Stanford, Pilot 1 MOOC, 160'000 learners
- 2012, spring
  - start of company
  - 4 partner universities
- 2013, autumn
  - 5 Mio. learners
  - 90 partners
  - 460 MOOCs
  - UZH-Pilot
- 2016, 15 Mio. learners
- [www.coursera.org](http://www.coursera.org)





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# UZH on Coursera 22. August 2013

UZH-Pilot MOOC

Prof. Abraham Bernstein  
«Informatics  
for Economists»

HS 2013

The screenshot shows the Coursera interface for the University of Zurich. At the top, the Coursera logo and navigation links are visible. The main header features an aerial view of the University of Zurich campus. Below this, the University of Zurich logo and name are displayed, followed by a brief description of the university. The course title 'INFORMATIK FÜR ÖKONOMEN' is prominently shown, along with the start date 'October 2013'. A circular profile picture of Professor Abraham Bernstein is featured, with his name and title 'Professor, Department of Informatics' listed below it. At the bottom, there are social media links for the university and a map of Zurich.

**University of Zurich**

Founded in 1833, the University of Zurich (UZH) is Switzerland's largest university, with a current enrollment of over 26,000 students. Made up of seven faculties covering approximately 100 different subject areas, UZH is proud to offer the most comprehensive academic program in the country.

**INFORMATIK FÜR ÖKONOMEN**

Informatik für Ökonomen  
October 2013

**Abraham Bernstein**  
Professor  
Department of Informatics

[www.uzh.ch](http://www.uzh.ch)  
[f uzh.ch](https://www.facebook.com/uzh.ch)  
[t uzh\\_news](https://twitter.com/uzh_news)  
[v uzhch](https://www.youtube.com/user/uzhch)

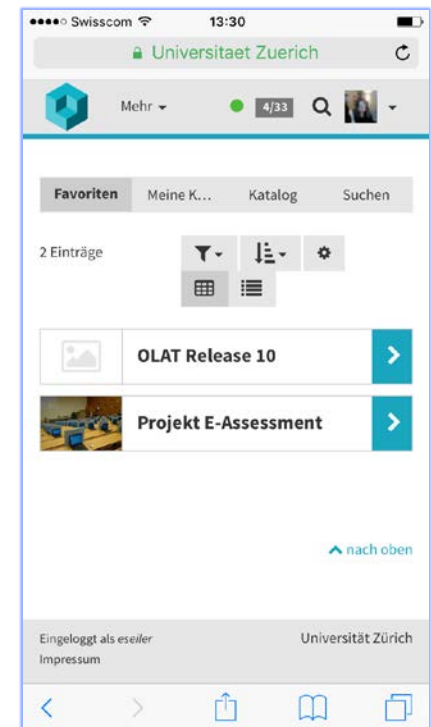
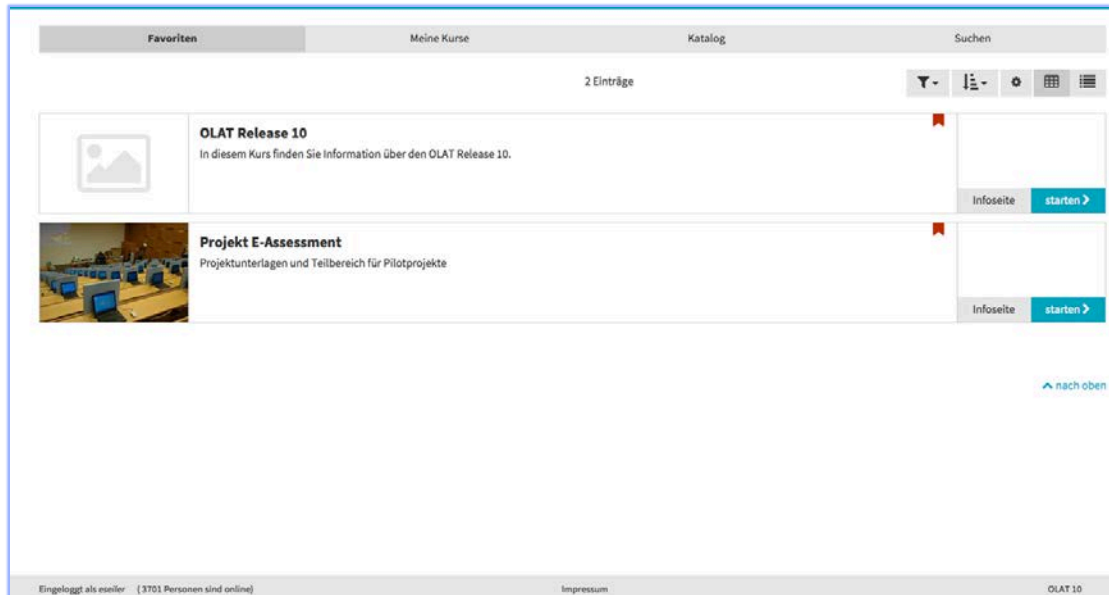
Map data ©2013 GeoBasis-DE/BKG (©2009), C

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## LMS – from desktop and laptop to mobile





## LMS for E-Assessment, 2015

- **Paper based exams**
  - room entry control (ID scanning)
  - Assessment delivery control
  - processing results
- **E-Assessment**
  - open book e-assessments online
  - closed book e-assessments on campus

### EPIS - Elektronische Prüfungsinfrastruktur

#### Multiple Choice Auswertung Papierprüfungen:

WWF	11 Module, 2'900 Teilnehmende
PhF	27 Module, 5'000 Teilnehmende
MNF	21 Module, 3'400 Teilnehmende

#### E-Assessment (Online Prüfungen):

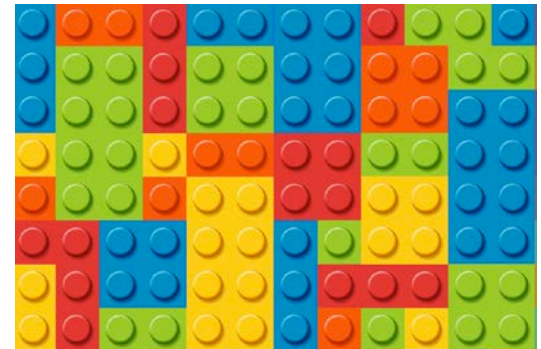
18	Veranstaltungen, grösste Prüfung mit 883 Teilnehmenden (RWF)
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Einlass- und Abkündigung

Fast growing demand for support of e-assessments!

## The vision of Next Generation Digital Learning Environment: NDGLE, a follow-up of LMS?

- A confederation of integrated IT systems
  - Flexible, modular, «Lego»-Style
- Full adherence to standards
- Teachers and students add/remove tools
- Support personalization



Adopted by University of Utrecht (Netherlands):

<https://www.youtube.com/watch?v=tX57ruRKys0>



# Next Generation Digital Learning Environment NDGLE

EDUCAUSE | LEARNING  
INITIATIVE

## The Next Generation Digital Learning Environment

### A Report on Research

Malcolm Brown, EDUCAUSE Learning Initiative

Joanne Dehoney, EDUCAUSE

Nancy Millichap, Next Generation Learning Challenges

ELI Paper

April 2015

<https://library.educause.edu/~media/files/library/2015/4/eli3035-pdf.pdf>



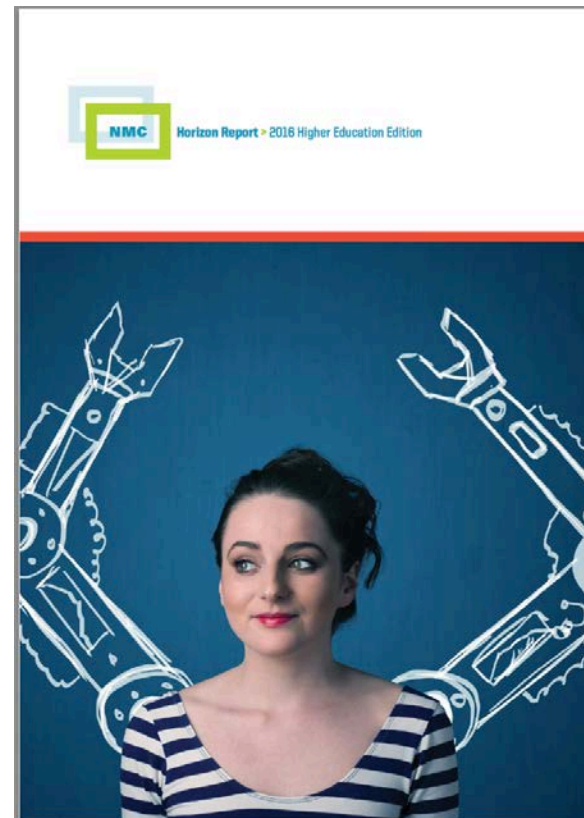
# EDUCAUSE

The screenshot shows the EDUCAUSE website homepage. At the top, there is a navigation bar with links: RESEARCH AND PUBLICATIONS, CONFERENCES AND EVENTS, CAREER DEVELOPMENT, FOCUS AREAS AND INITIATIVES, CONNECT AND CONTRIBUTE, and ABOUT EDUCAUSE. Below this is a large banner for the "EDUCAUSE ANNUAL CONFERENCE 2016" held from October 25-28, 2016, in Anaheim, CA. A prominent "Register Now" button is visible. Below the banner, there are three main content columns: "WHAT IS EDUCAUSE" (describing the organization's mission), "NEWS AND EVENTS" (announcing award recipients and new board members), and "@EDUCAUSE ON TWITTER" (showing recent tweets). At the bottom, there is a "FEATURED TOPICS" section with links to various resources and a "SEE ALL TOPICS" button.

<http://www.educause.edu>

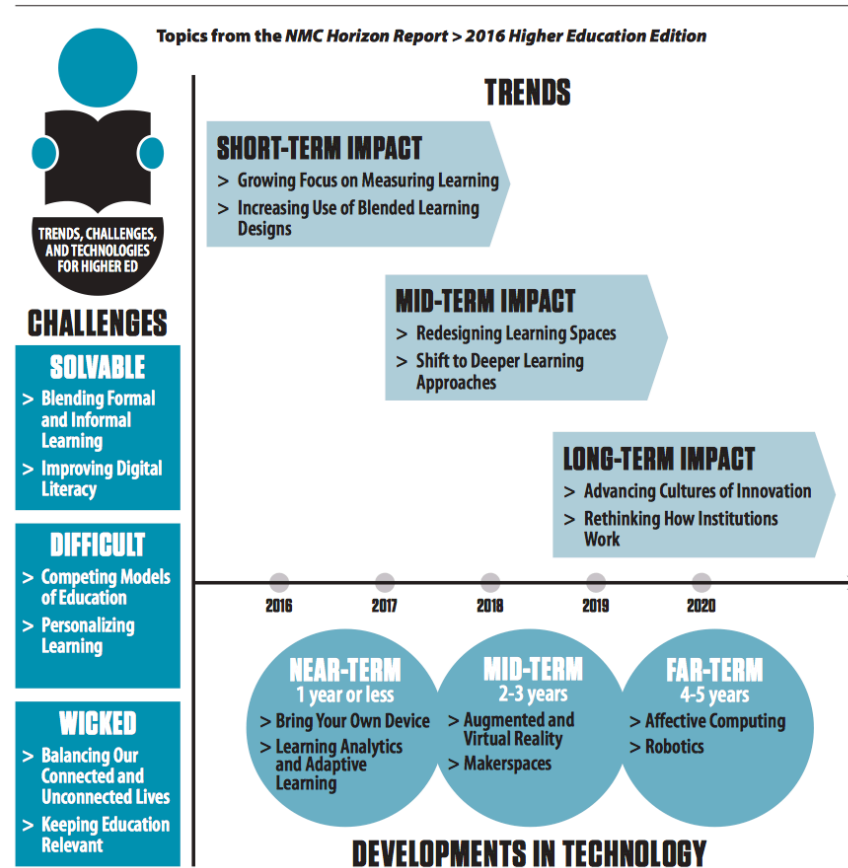


# NMC Horizon Report 2016, Higher Education Edition





# Topics from the NMC Horizon Report 2016





## Sources and References

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