(Digital) Higher Education -
L3Ts go?

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Do you know the Red Flag Acts?
The most draconic restrictions and speed limits were imposed by the 1865 act (the "Red Flag Act"), which required all road locomotives, which included automobiles, to travel at a maximum of 4 mph (6.4 km/h) in the country and 2 mph (3.2 km/h) in the city, as well as requiring a man carrying a red flag to walk in front of road vehicles hauling multiple wagons.
Infrastructure

Teachers

Mobility

Rules, specifications, instructions

Life without no more possible

Autonomous driving
Digital Technologies are much more complex
In the age of artificial intelligence, robots, virtual reality, autonomous driving, even virtual sex and exploding (digital) applications, so called digital-mature and responsible citizens are needed.

Bildungskonzil Heldenberg (2017)
4 questions & answers
Why do we need educational technologies urgently?
STUDENTS OF TODAY?
• WS 2007/2008 n=578
• WS 2008/2009 n=821
• WS 2009/2010 n=757
• WS 2010/2011 n=702
• WS 2011/2012 n=632
• WS 2012/2013 n=715
• WS 2013/2014 n=789
• WS 2014/2015 n=968
• WS 2015/2016 n=889
• WS 2016/2017 n=944
• WS 2017/2018 n=872

Long-term study for 11 years (n=8667)
Which device do you own?

How do you communicate?

Communicational Behavior "often" and "daily": 2007 - 2017

Social-Media-Usage

The use of media for learning purposes is normal in everyday life for today's young people - an integral part of their learning environment. It is a daily routine!
Students need a comprehensive central offer of digital accessible learning tools and content.
How to enhance universities with Educational technologies?
Success factors for lecturers

Benefit

Usability

Infrastructure

Rules & Templates
1. Strengthening *didactic trainings* (in particular media pedagogy, media didactics and educational technologies)

2. **Organisational** anchoring of online teaching (creation of learning spaces, teaching and learning organisation)

3. Provide the needed *infrastructure*
The whole university must be competent in terms of media usage for teaching and learning.
... but we need (digital) content ...
The strict copyright law (especially in German speaking countries) did not allow to use free content of the Web for education.
Quo vadis - digital classrooms?
open source
open information
open data
open access
open educational resources
open science
open content
"Open Educational Resources (OERs) are any type of educational materials that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them."

UNESCO
http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-educational-resources/what-are-open-educational-resources-oers/
For Free
(Re-) Usable
Open Standard

OER
OPEN EDUCATIONAL RESOURCES

fbr.io/ FB
Hier entsteht kollaborativ ein OER Schul-E-Book.

Wiki-style e-textbooks for schools let teachers tailor lessons to kids

Unhappy with the number of textbook pages his students needed to skip over, a biology teacher teamed with a media expert to create a free, online e-textbook for seventh and eighth graders.

http://schulbuch-o-mat.de/
http://bimsev.de
Wählen Sie aus folgenden Sammlungen:

- aetou
- Biographien
- AustriaWiki
- Essays
- Web Books
- Natur

- Alltagskultur
- Kunst und Kultur
- Bilder und Texte
- Videos
- Politik und Geschichte
- Wissenschaft & Wirtschaft

- Geography
- Community
- Interaktive Kurse
- Unterrichtsmaterialien
- Bücher über Österreich
- Crowdfunding / Spenden

- Themenlisten
- Neues aus der Wissenschaft
- Web Books NEU
- Verifizieren von Beiträgen

http://austria-forum.org
Es ist Zeit, etwas Neues zu lernen

Registrieren Sie sich jetzt

NEU: Login mit eduID

http://imoox.at
We have to open our content to ensure accessibility, exchange or simply digital based education.
Finally, how we have to use educational technologies?
Theoretical concepts

Flipped Classroom
Seamless Learning
Mobile Learning

Use of technologies in classrooms
Use of different kind of informationsystems

http://tc.tugraz.at

http://tube.tugraz.at
Blended Learning
Flipped Classroom

Video based input

exercises / interactions in classrooms
NOT ALL CLASSROOMS HAVE FOUR WALLS

#iMooX
Learning to code: Programming with Pocket Code

MOOC

broad audience, fast knowledge transfer

accessibility, flexibility

http://imoox.at
MOOC & Learning Analytics

Learning is happening all the time

http://imoox.at
MOOC & Learning Analytics

http://stela-project.eu/

1. Which student factors are related to SPOC activity?

<table>
<thead>
<tr>
<th>Type (Complex)</th>
<th>Count</th>
<th>Start</th>
<th>Mean</th>
<th>Median</th>
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<tbody>
<tr>
<td>Traditional Study Track and Normstudent and Female</td>
<td>427</td>
<td>191 d 3 h 56 min</td>
<td>10 h 44 min</td>
<td>6 h 23 min</td>
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<td>Traditional Study Track and Normstudent and Male</td>
<td>189</td>
<td>100 d 8 h 50 min</td>
<td>12 h 46 min</td>
<td>6 h 13 min</td>
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<tr>
<td>Traditional Study Track and Not Normstudent and Female</td>
<td>98</td>
<td>40 d 11 h 12 min</td>
<td>9 h 54 min</td>
<td>2 h 54 min</td>
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<td>22 d 14 h 28 min</td>
<td>12 h 38 min</td>
<td>4 h 15 min</td>
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<td>Non Traditional Study Track and Normstudent and Female</td>
<td>105</td>
<td>35 d 18 h 22 min</td>
<td>8 h 10 min</td>
<td>35 min</td>
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<tr>
<td>Non Traditional Study Track and Normstudent and Male</td>
<td>42</td>
<td>10 d 6 h 17 min</td>
<td>5 h 51 min</td>
<td>5 min</td>
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<tr>
<td>Non Traditional Study Track and Not Normstudent and Female</td>
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<td>53 d 34 min</td>
<td>14 h 58 min</td>
<td>4 h 48 min</td>
</tr>
<tr>
<td>Non Traditional Study Track and Not Normstudent and Male</td>
<td>58</td>
<td>28 d 3 h 42 min</td>
<td>11 h 39 min</td>
<td>2 h 22 min</td>
</tr>
</tbody>
</table>

... but differs in accordance to the target group
Adequate use of educational technologies increases the didactic diversity - it is now a matter of strategic implementation.
EDUCATIONAL TECHNOLOGY

Graz University of Technology

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(Bildungsinformatiker)

Yes, we care :-)

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Follow me!
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