# Unit 1: Technology Enhanced Learning

Hello!

WE ARE Katharina Hohla & Martin Ebner

"

The term "technology-enhanced learning" is the term that encompasses the widest range of technologies that support learning activities. Whenever technologies are used in a learning or teaching situation, we can speak of technology-enhanced.
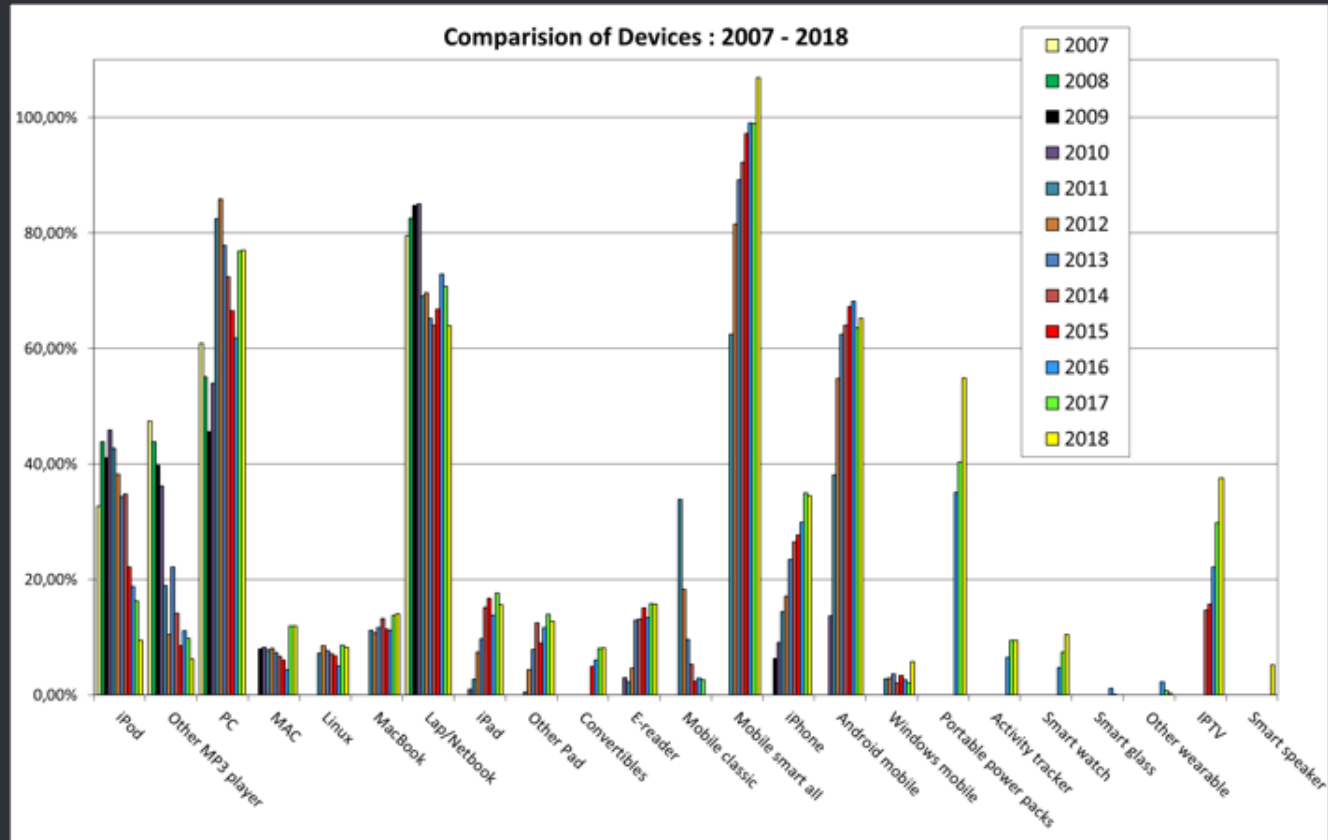
Three pillars

Human

Technology

Learning
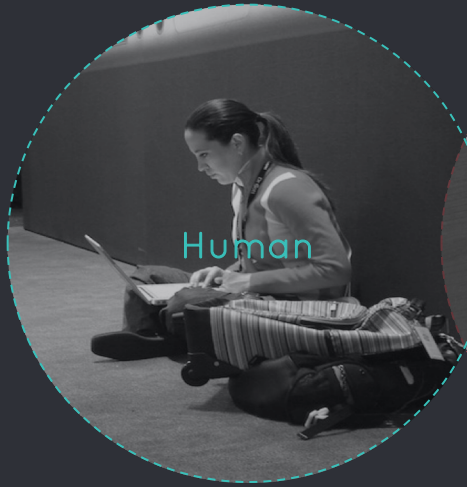
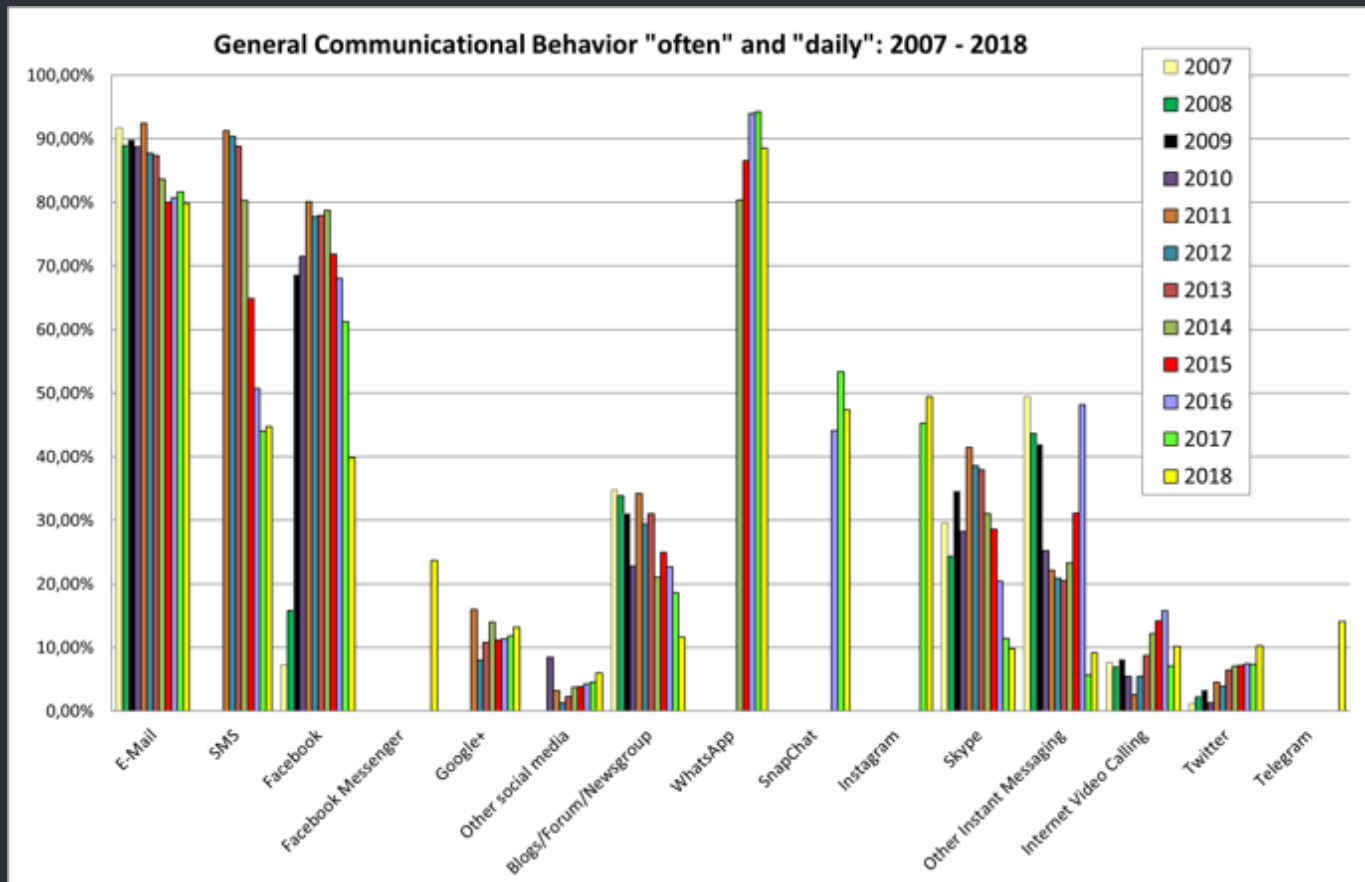# 1 Students of Today

What did we know about the learners?

Long-term Study (n=9565)

- ◦ 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
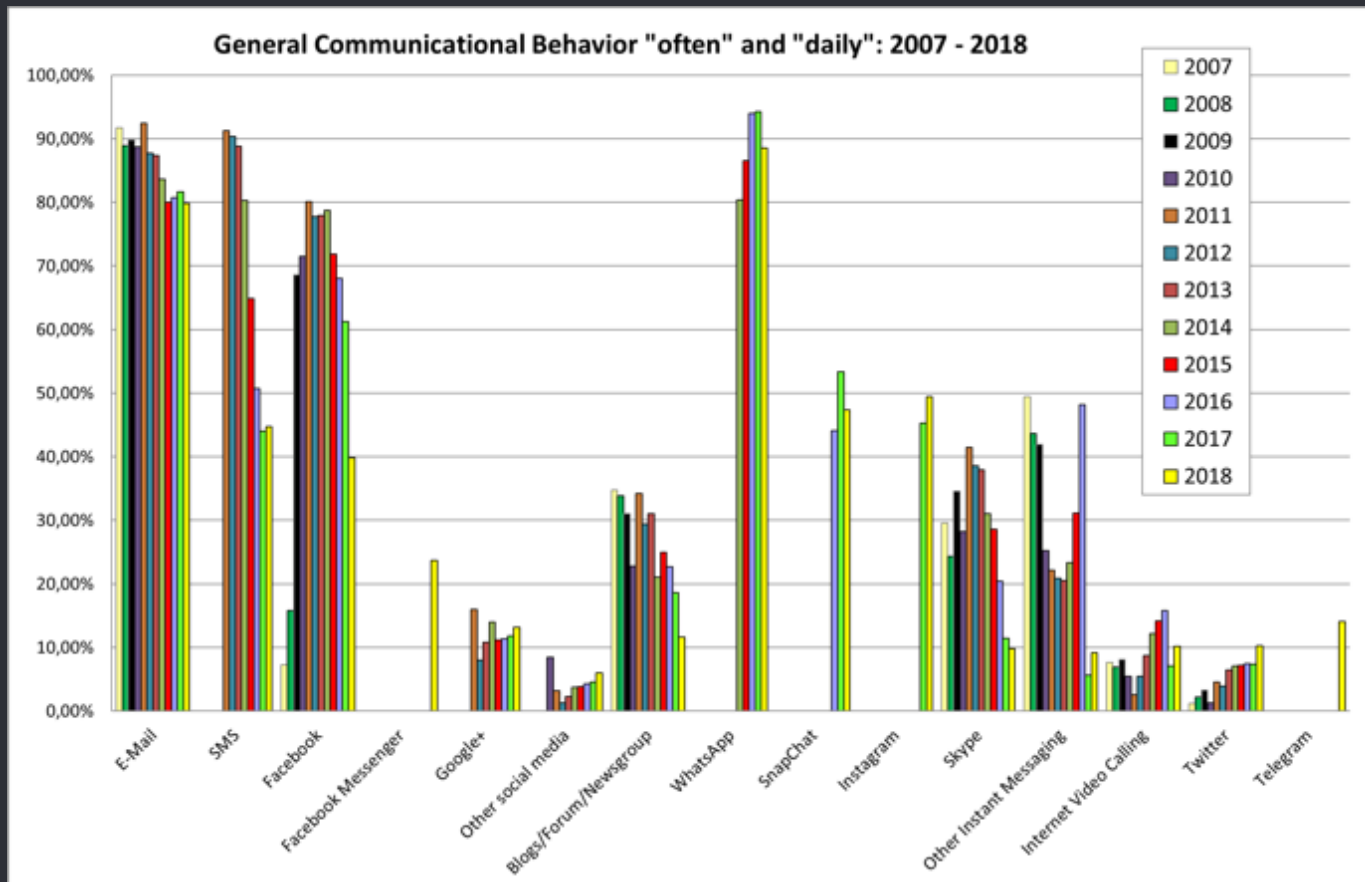- ◦ WS 2017/2018 n=872
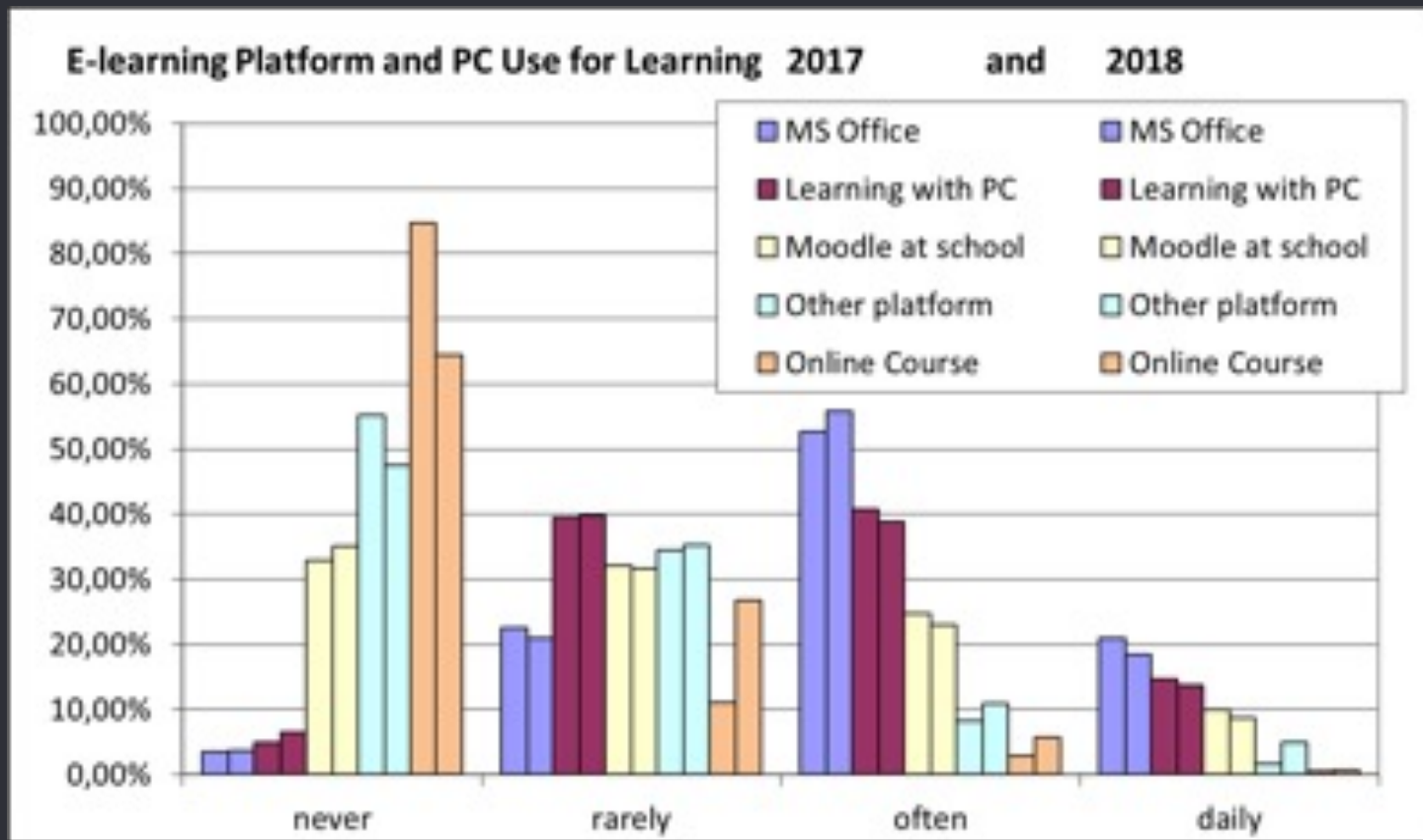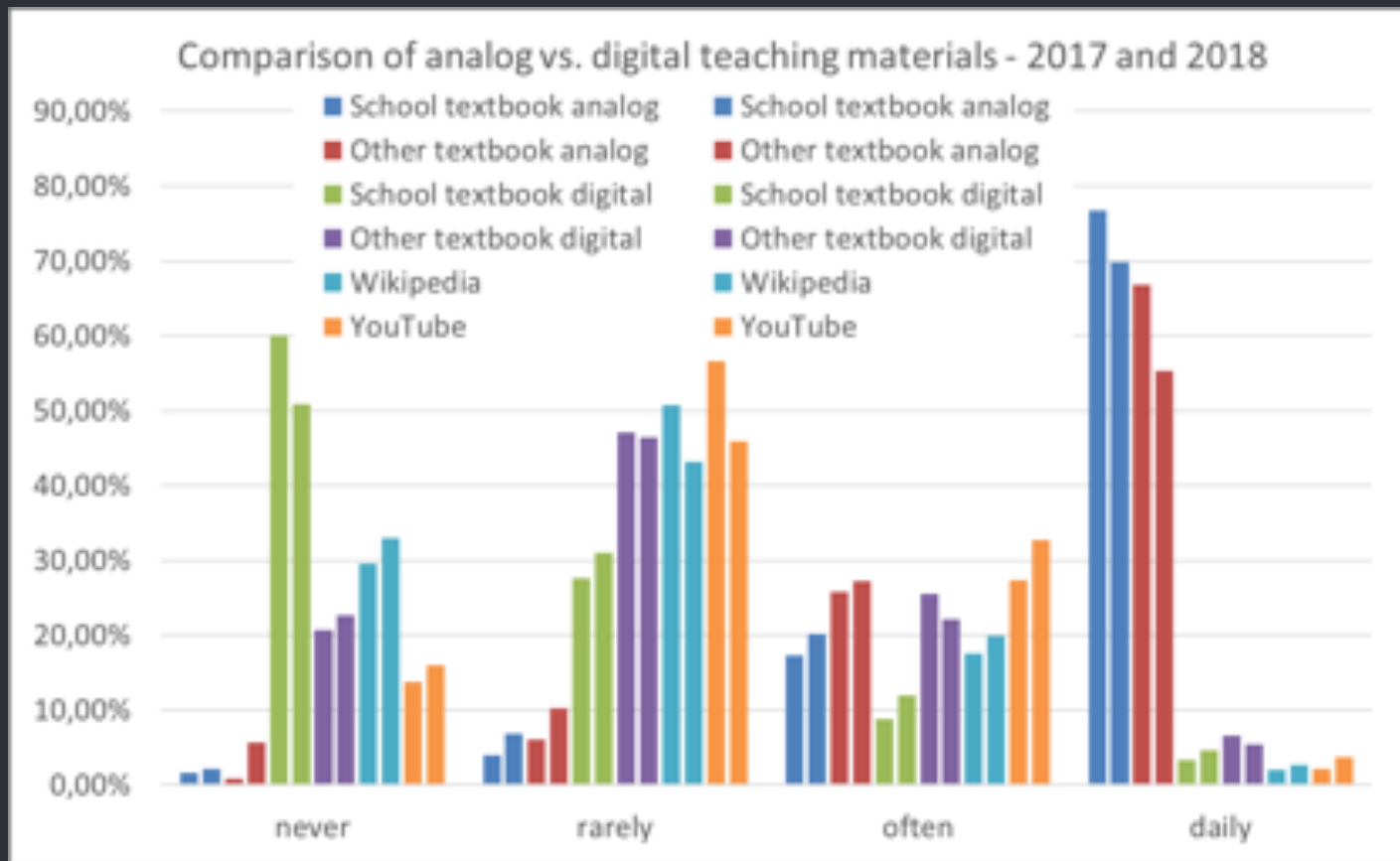- ◦ WS 2018/2019 n =898

Which devices do you own?

Comparision of Devices : 2007 - 2018

How do you communicate?

General Communicational Behavior "often" and "daily": 2007 - 2018

How do you communicate?

General Communicational Behavior "often" and "daily": 2007 - 2018

IT-usage in schools?

E-learning Platform and PC Use for Learning 2017 and 2018

analog vs. digital teaching materials?

Comparison of analog vs. digital teaching materials - 2017 and 2018

Which tools are using for learning?

Comparision of Often and Daily LearnUse: 2007, 2011 and 2016
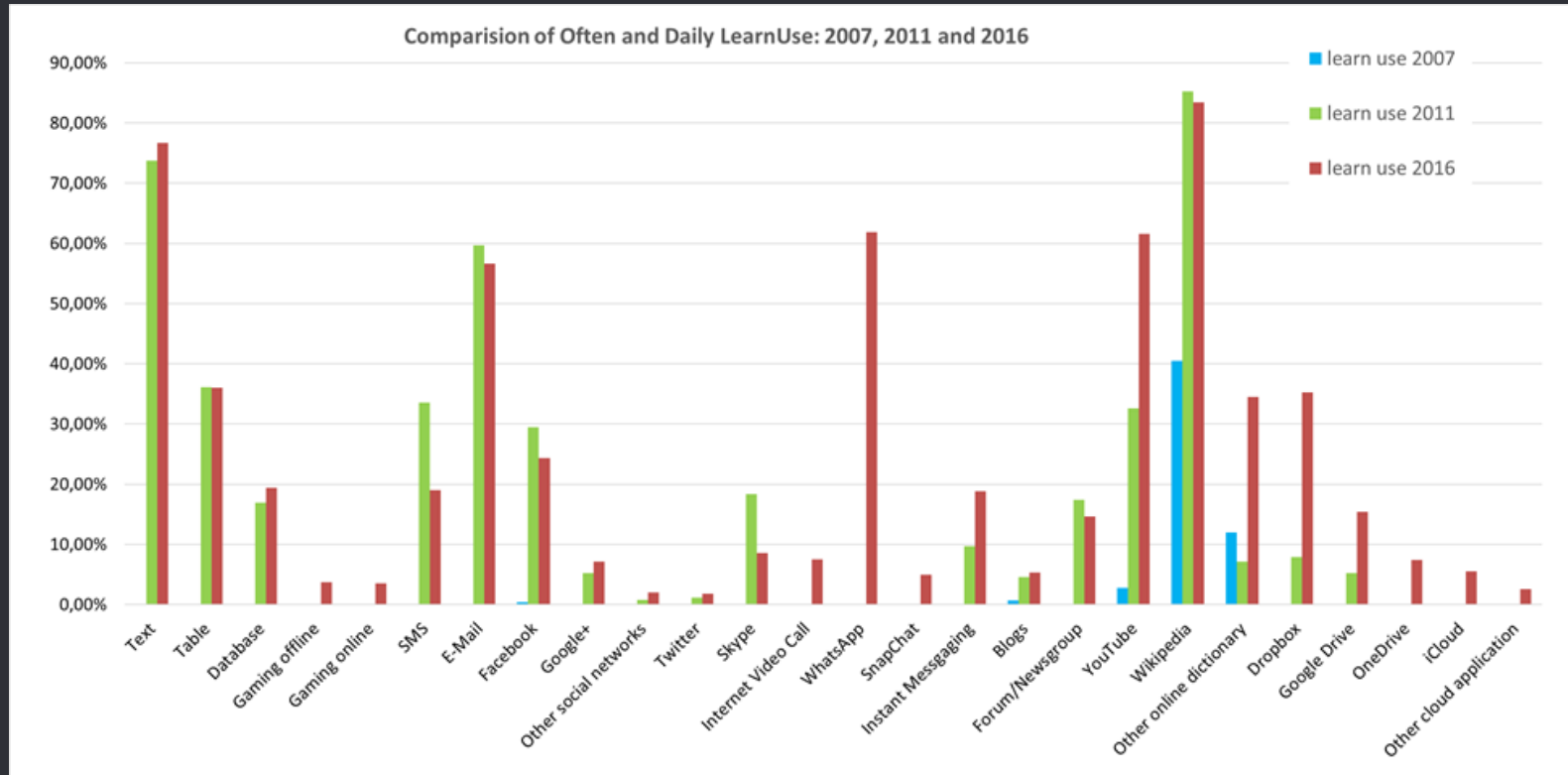
Social Media Usage?
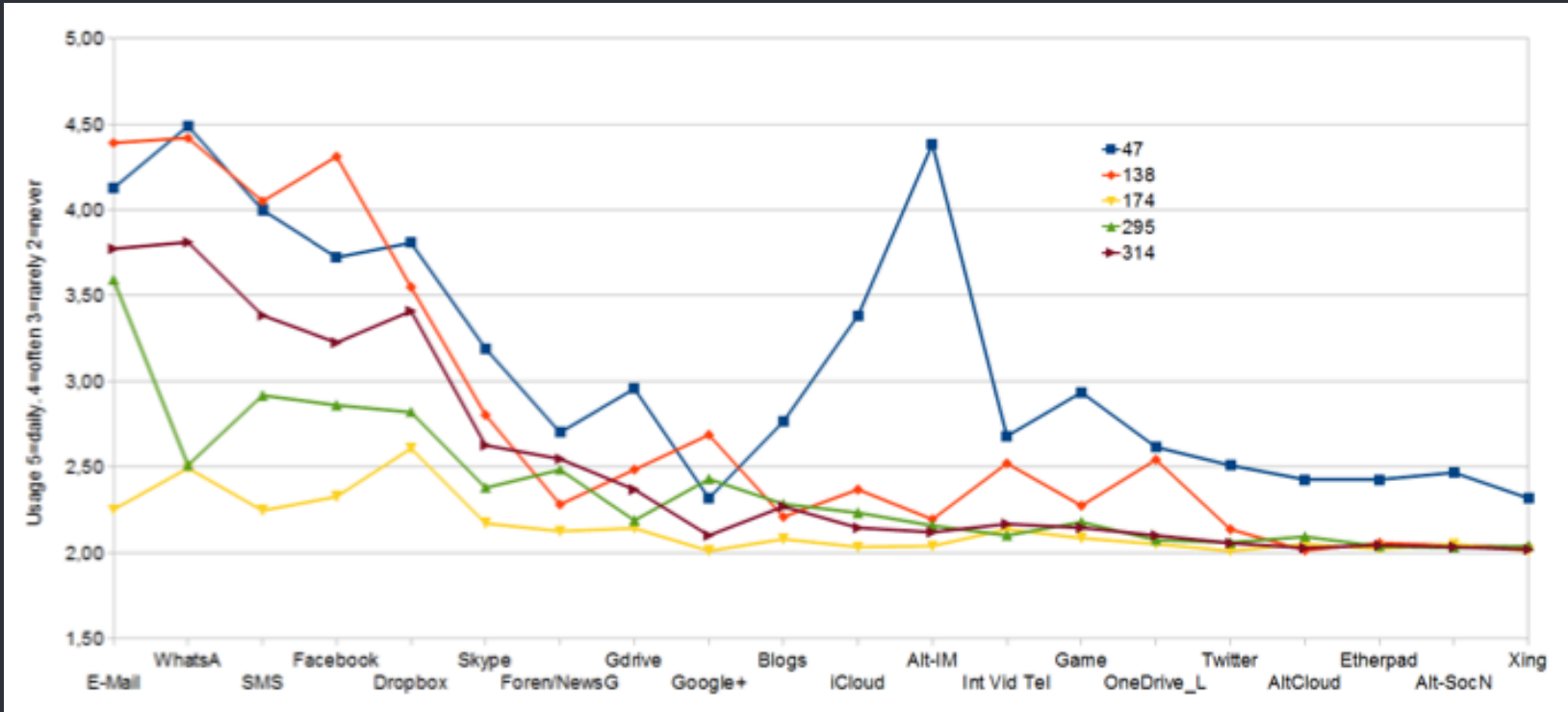
Using media or technology or learning purposes daily is normal for today's young people - an integral part of their learning environment. It is their everyday life even before the CoVid19-crises!

2 Technology is an emerging field

... and it will not stop

"The iPhone generates 33% of **all mobile smartphone traffic** worldwide and 50% in the US."

AdMob Mobile Metrics, 2009
http://de.admob.com/s/solutions/metrics?_cd=1

… but not only iOS

Worldwide smart phone market
Market shares Q4 2010, Q4 2009

| OS vendor	Q4 2010 shipments (millions)	% share	Q4 2009 shipments (millions)	% share	Growth Q4'10/Q4'09
Total	101.2	100.0%	53.7	100.0%	88.6%
Google	33.3	32.9%	4.7	8.7%	615.1%
Nokia	31.0	30.6%	23.9	44.4%	30.0%
Apple	16.2	16.0%	8.7	16.3%	85.9%
RIM	14.6	14.4%	10.7	20.0%	36.0%
Microsoft	3.1	3.1%	3.9	7.2%	-20.3%
Others	3.0	2.9%	1.8	3.4%	64.8%

Source: Canalys estimates, © Canalys 2011
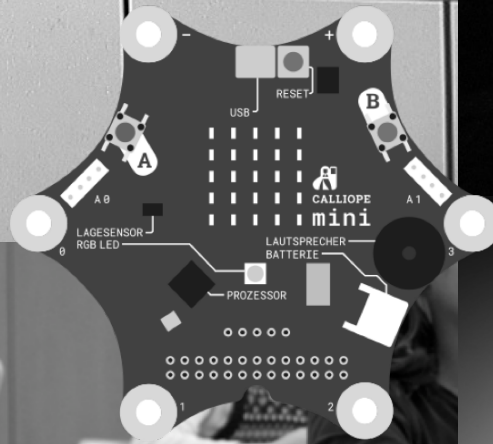
Devices of tomorrow
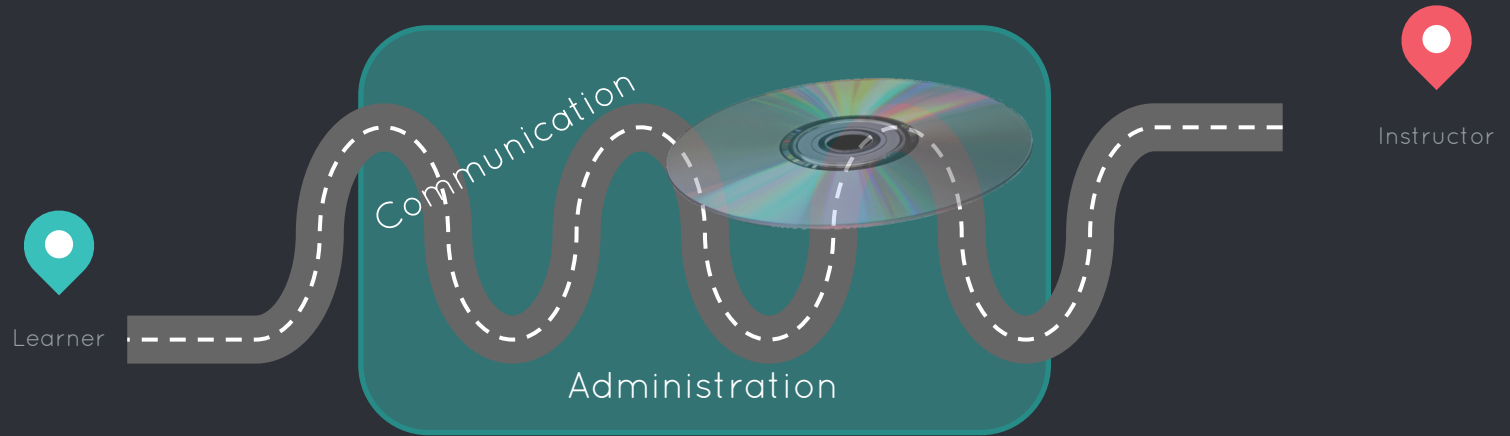
18

3 Technology & Learning

... how digital technologies evolve

Computer Based Training (CBT)
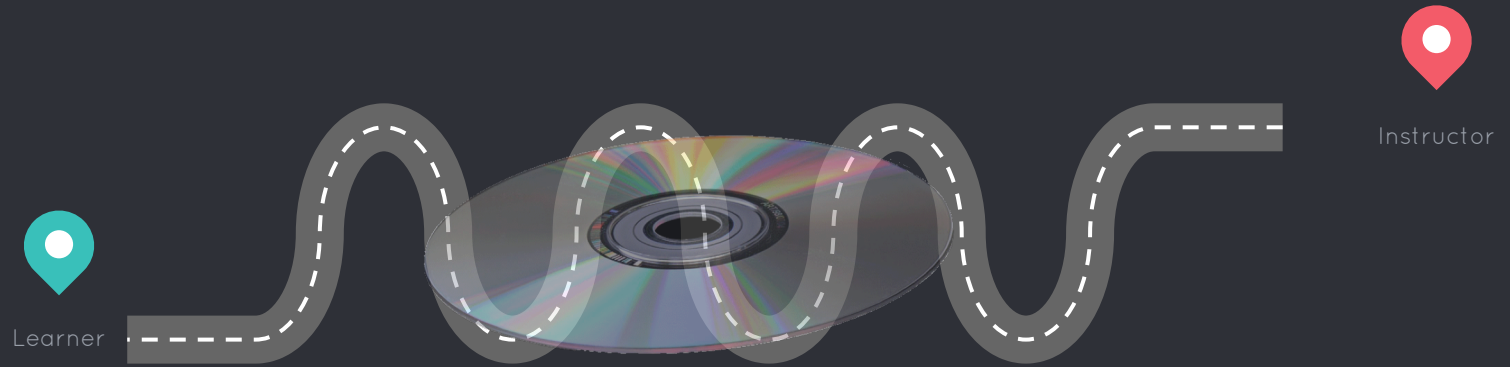
Learner

Instructor

Web Based Training (WBT)

Communication

Administration

Learner

Instructor

Web 2.0 (social web)

Wikis

Social Networks

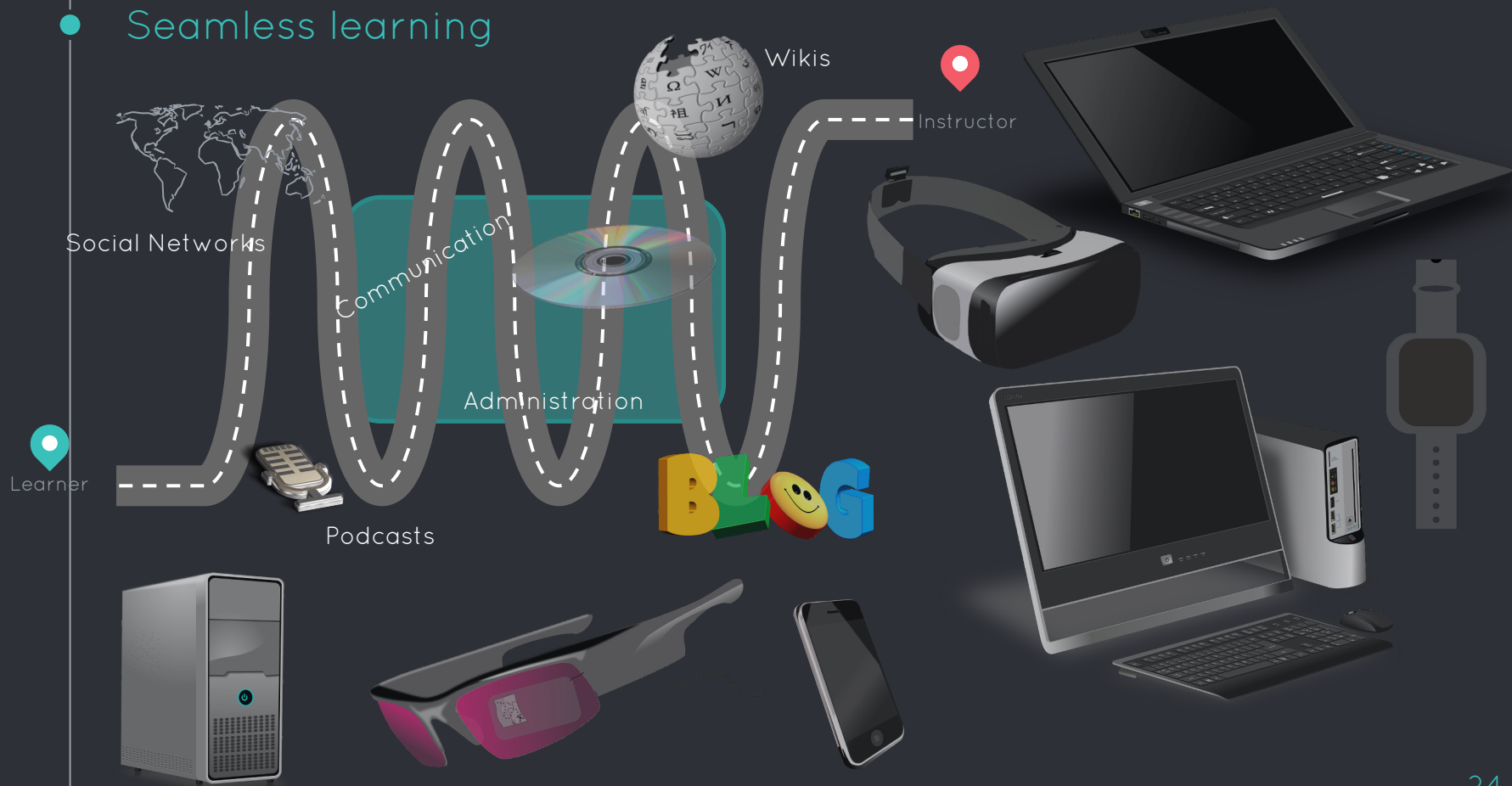Communication

Administration

Learner

Podcasts

BLOG

Mobile Learning

Wikis

Instructor

Social Networks

Communication

Administration

Learner

Podcasts

BLoG

Seamless learning

Wikis

Instructor

Social Networks

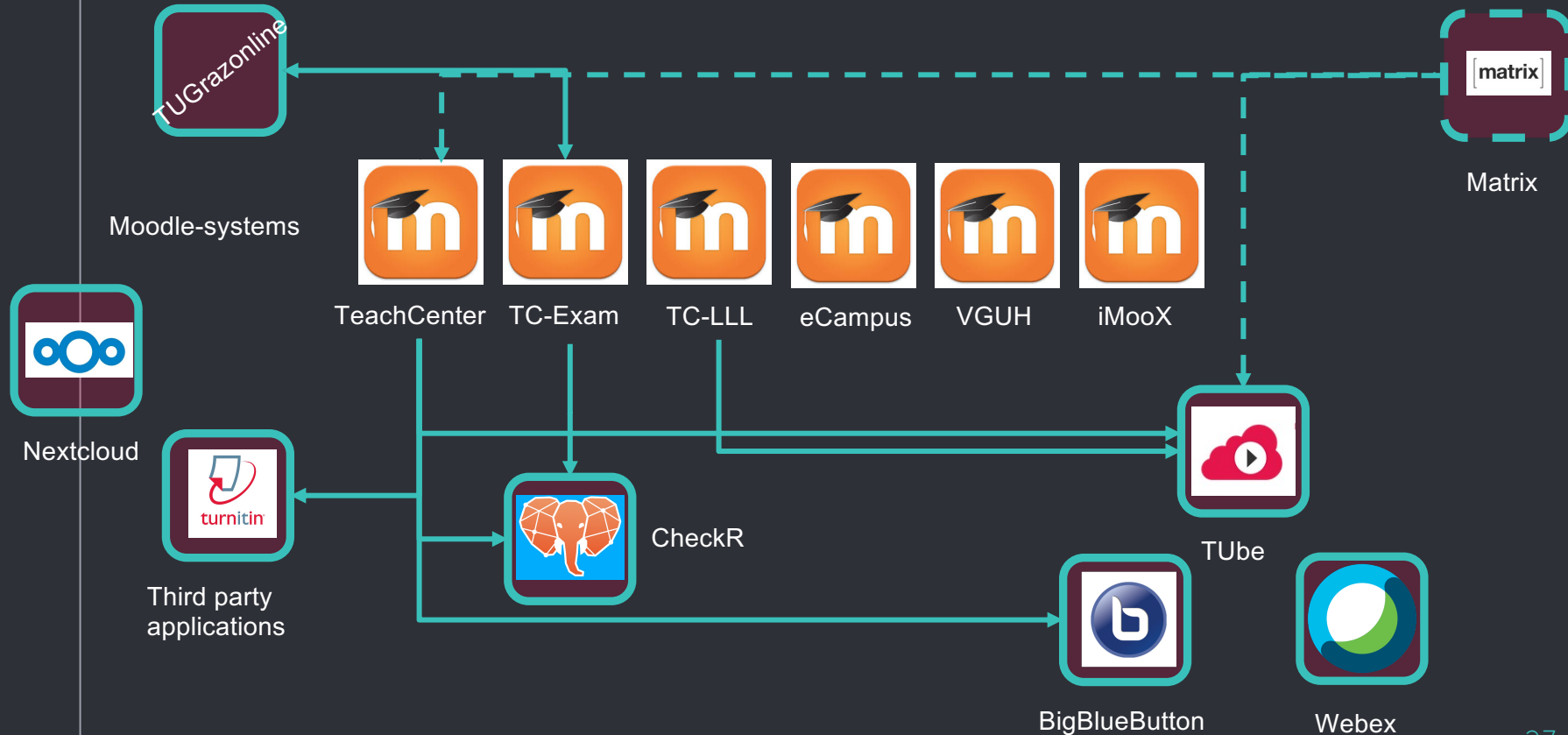Communication

Administration

Learner
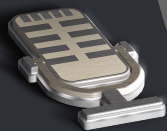
Podcasts
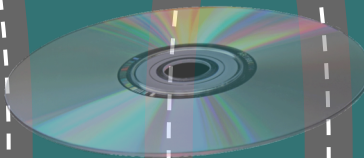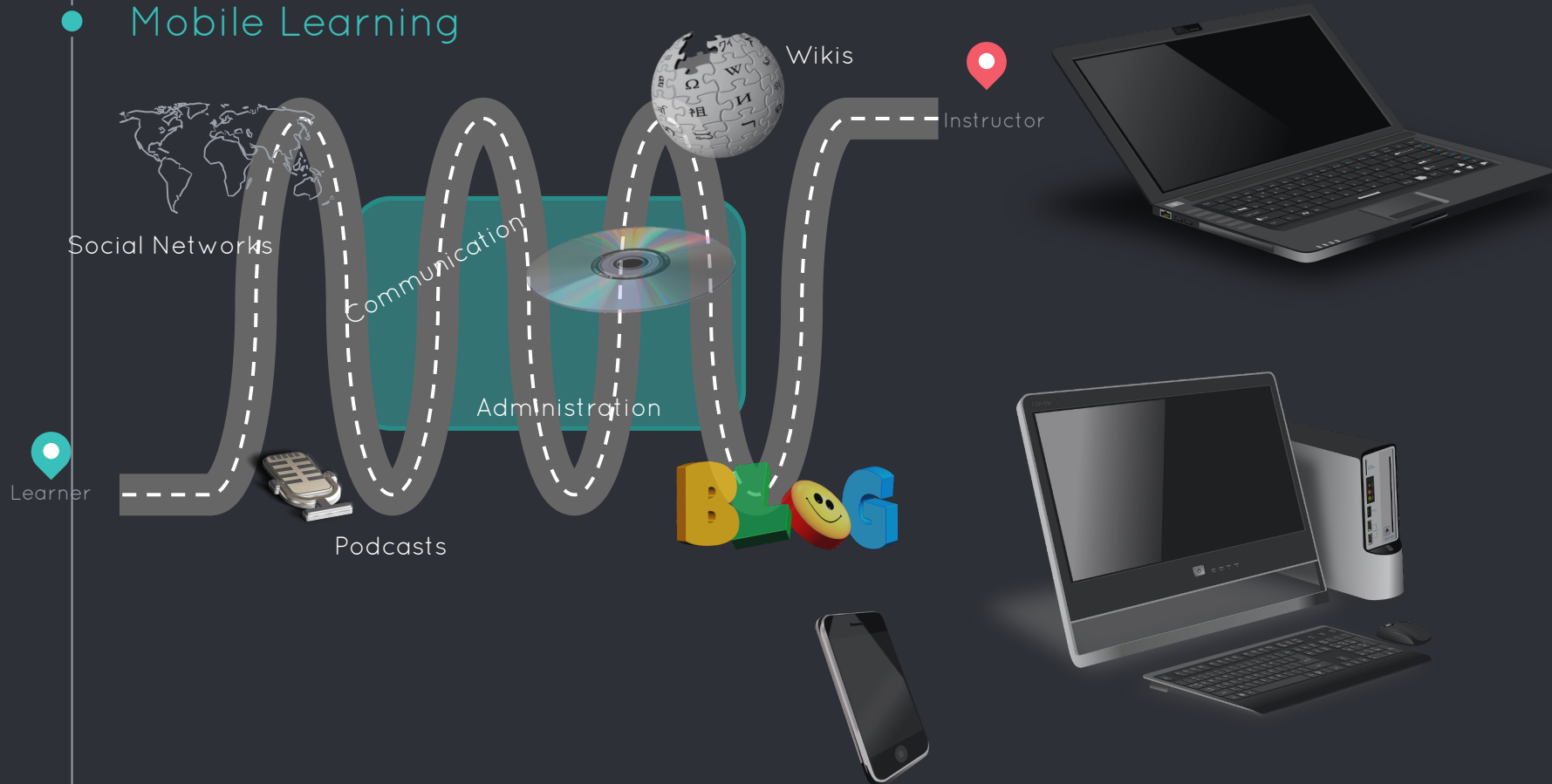
BLOG

Learning Experience

From Learning Management Systems (LMS) to Learning-Experience Environments (LXE)

*Former information systems mostly based on teachers and course management. Afterwards there was a switch to more learner-based environments (personal learning environments). Nowadays we are going to **learning experience systems** and **environments**.*

LXE (TU Graz)

TUGrazonline

Matrix

Moodle-systems

TeachCenter   TC-Exam   TC-LLL   eCampus   VGUH   iMooX

Nextcloud

Third party applications

CheckR

TUbe

BigBlueButton   Webex

27

4 Future of TEL

... what will happen?

Horizon Report 2021

- ◦ Artificial Intelligence (AI)

- ◦ Blended and Hybrid Course Models

- ◦ Learning Analytics

- ◦ Microcredentialing

- ◦ Open Educational Resources (OER)

- ◦ Quality Online Learning

TEXT EDITOR

An einem Abbend im Abril assen wia Nuddeln und süse Epfel. Aigentlich wolten wier Fische, aba mein Vata angelde keine. das war nemlich so: Er war im Walt bei einem see als plötzlig ein starges und gevährliches Gewietter cam. Die Försche haben laud geuqakt. Er pakte seine Sachen und den Hunt in den Kefig und vuhr dafon. Er schafte es zum Glük n nach Hause. Eine kleine Geschihte: Fritzi und Ich sint nachdem wir unßere Zeugnise im Untericht bekomen habn in den Zoo geganen. Auch änliche Seehunde die spielden. Unterwegs hapen wir Popcorn gekaufd und ins Eis gebiessen. Die Wellensittiche warn bestiemmt süss und der ander Fogel ist auch süss. Fritzi und ich sind Im Zoo und haben einen stargen Tiger gesehen. Aigentlich auch einen Seehund der spielte. Unterwegs haben wir Popcorn gekauft und Eis gegessen. Die Wellensittiche waren süß und der ander Vogel ist auch süß.

German ∨ | Check Text

**BotTutor Ich habe 57 möglichen Fehler gefunden**

- BotTutor: Wie kann ich dir helfen?
- YOU: Korrigiere mir das Wort Abbend?
- BotTutor: Das Wort Abbend kenne ich nicht, meinst du vielleicht Abend?
- YOU: ja
- BotTutor: In Ordnung. Hast du noch eine Frage an mich?
- YOU: Wie schreibt man das Wort Abril?
- BotTutor: Das Wort Abril kenne ich nicht, meinst du vielleicht April?
- YOU: Ja
- BotTutor: In Ordnung. Hast du noch eine Frage an mich?

Sag etwas...

Frage mich

Virtual Reality
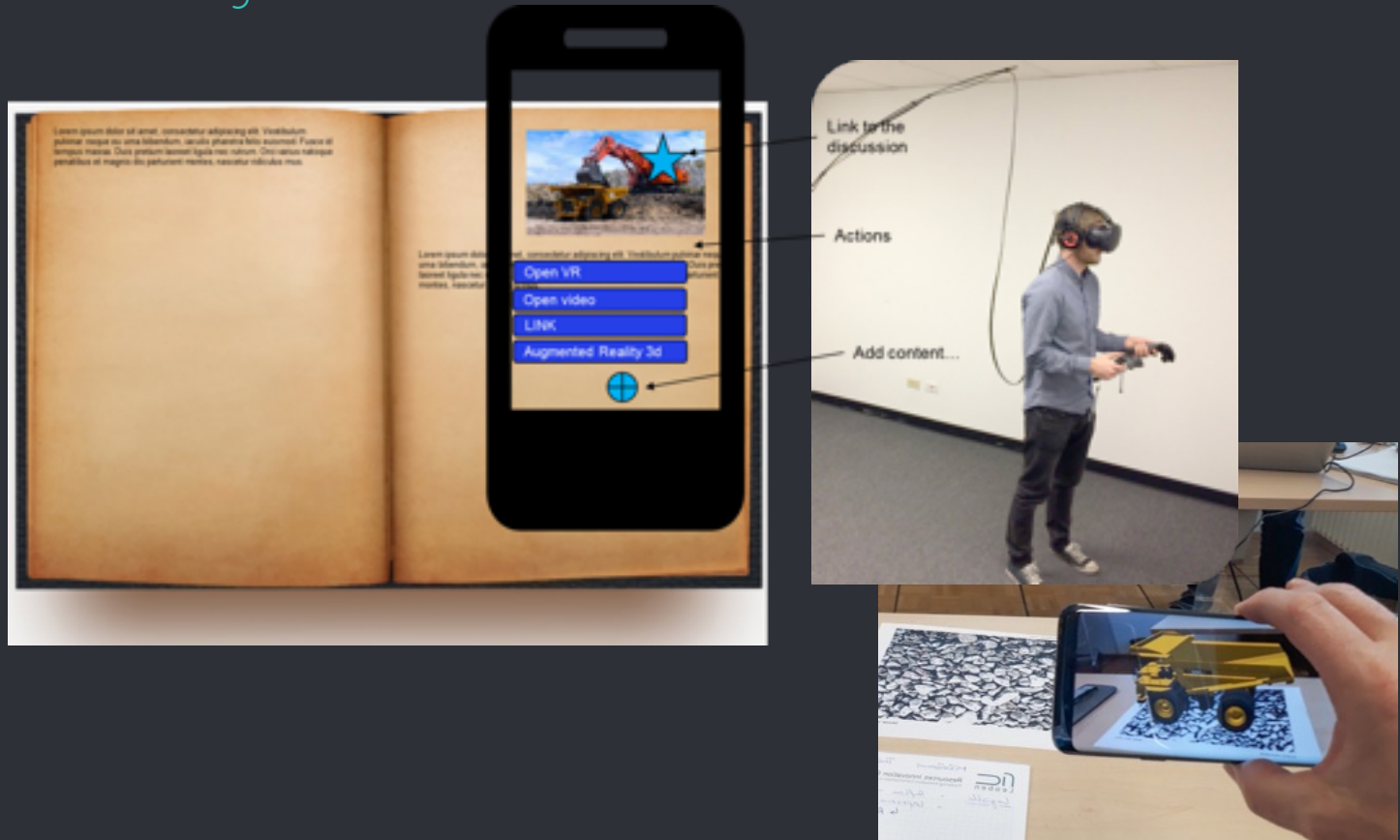
Blended and Hybrid Course Models

Seven teaching and learning scenarios with MOOCs
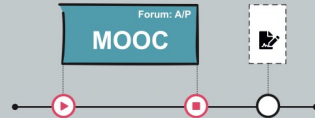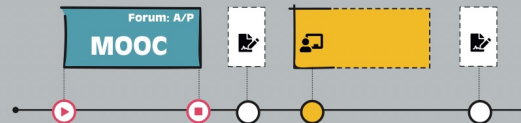
Blended and Hybrid Course Models
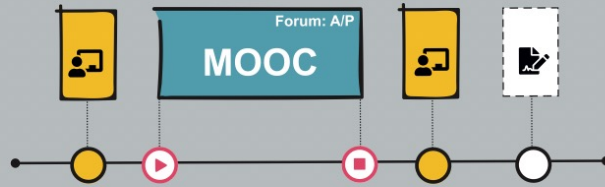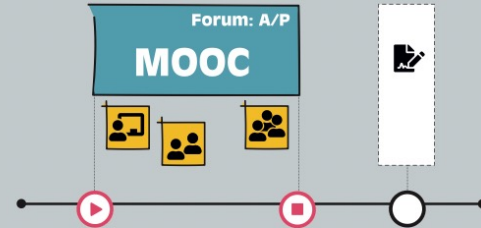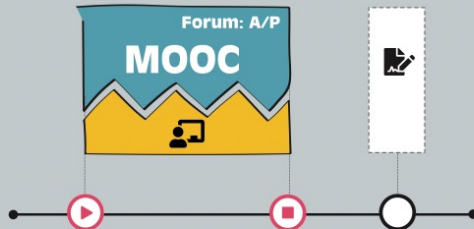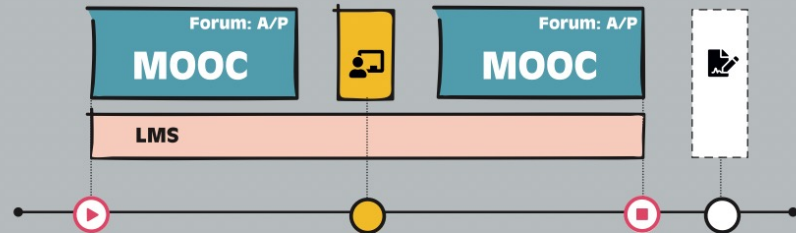
Learning Analytics
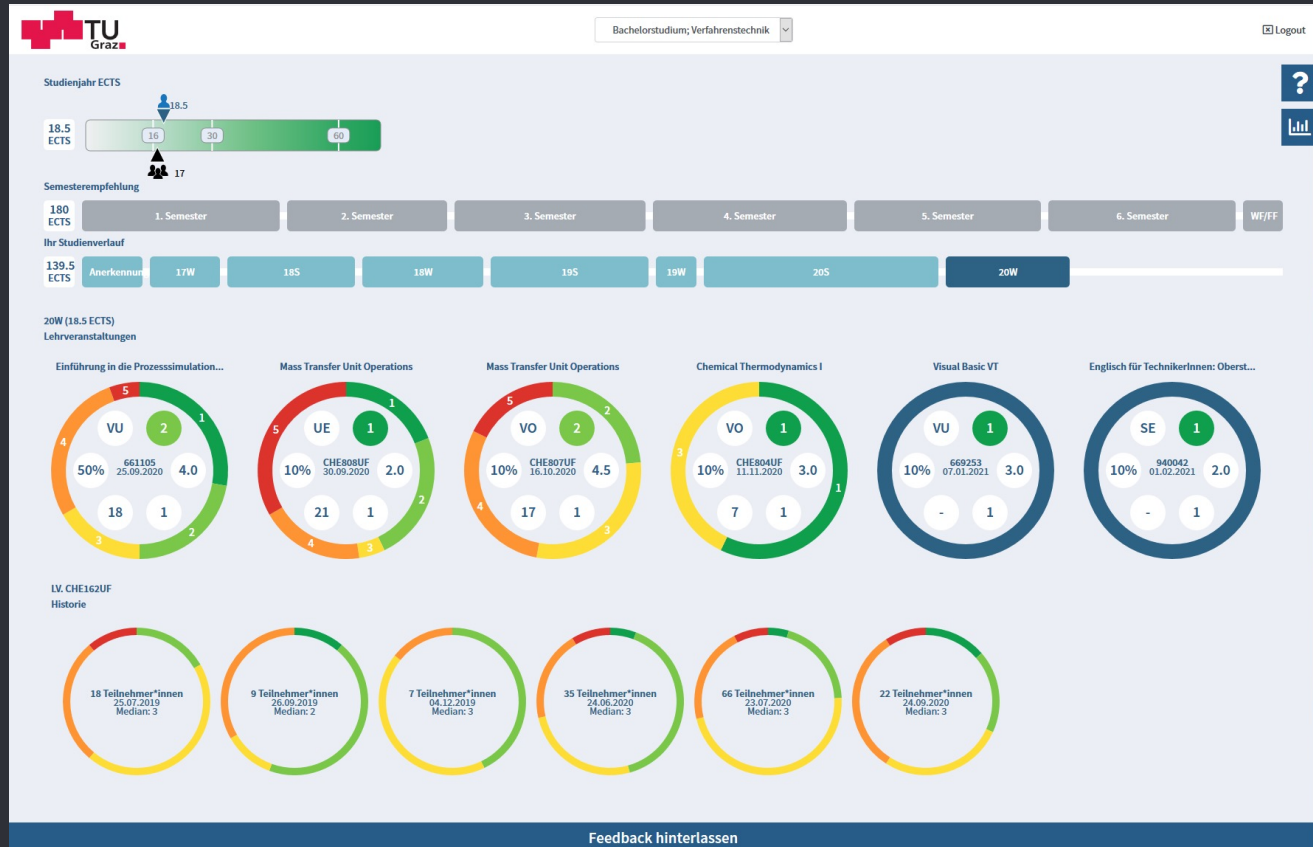
Open Educational Resources

Technology Enhanced Learning as holistic approach

1. Strengthening *didactic trainings* (especially media pedagogy, media didactics and media or educational informatics).

2. **Organizational anchoring** of online teaching (creation of learning spaces, teaching and learning organization, legal basis)

3. Creation of *infrastructure* (expansion) and strong *EdTech-support*

Group Work

... it's your turn

Thanks for the attention!

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