

Seminar Technology Enhanced Learning WS 21/22 - TU Graz

Einheit 6 - Martin Ebner

Input

If u cn rd this quickly, gd 4 u, but
AFAIK u will have problems - so
dw it's just fyi - L3T's start *lol*

106 Zeichen / 1 Tweet / 1 SMS

If **you** can **read** this quickly,
good for you, but **as far as** I
know you will have problems -
so **don't worry** it's just **for your**
information - Let's start
laughing out loud

169 Zeichen / 2 Tweet / 2 SMS / 160 %

Neue Sprache - Neue Medien

~~Neue~~ Sprache - ~~Neue~~ Medien

Mobile Generation



Umfrage 2009

6 Schulen
1130 SchülerInnen
20 LehrerInnen

Alter (Jahre)	n	%
10	58	5,1
11	244	21,6
12	287	25,4
13	311	27,5
14	175	15,5
15	43	3,8
16	6	0,5

Alter: _____ Jahre

Mein Handy:

☐ Ich besitze folgendes Handy:

Marke (z.B. Nokia, Sony Ericsson, ...): _____

Modell (z.B. 5320, W880i, ...): _____

Handytarif (z.B. Bob, A1 – Xcite Zero, ...) : _____

☐ Ich besitze KEIN Handy

Ich benutze das Handy zum:

	Nie	Selten	Öfters	Regelmäßig
• SMS schreiben	☐	☐	☐	☐
• Fotografieren/Filmen	☐	☐	☐	☐
• Internet surfen	☐	☐	☐	☐
• E-Mails abrufen	☐	☐	☐	☐

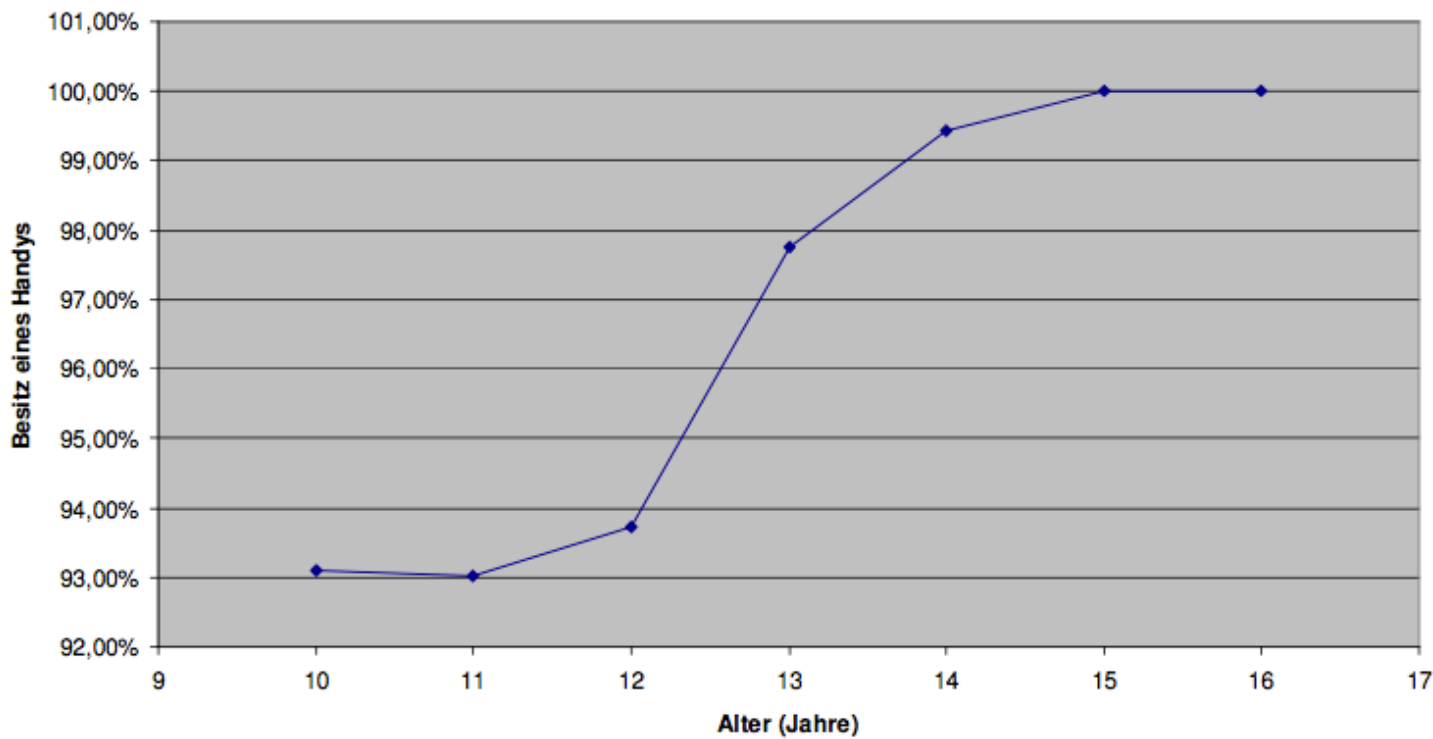
Ich könnte mir vorstellen, das Mobiltelefon im Unterricht für Lehr- und Lernzwecke anzuwenden:

☐ Ja

☐ Nein

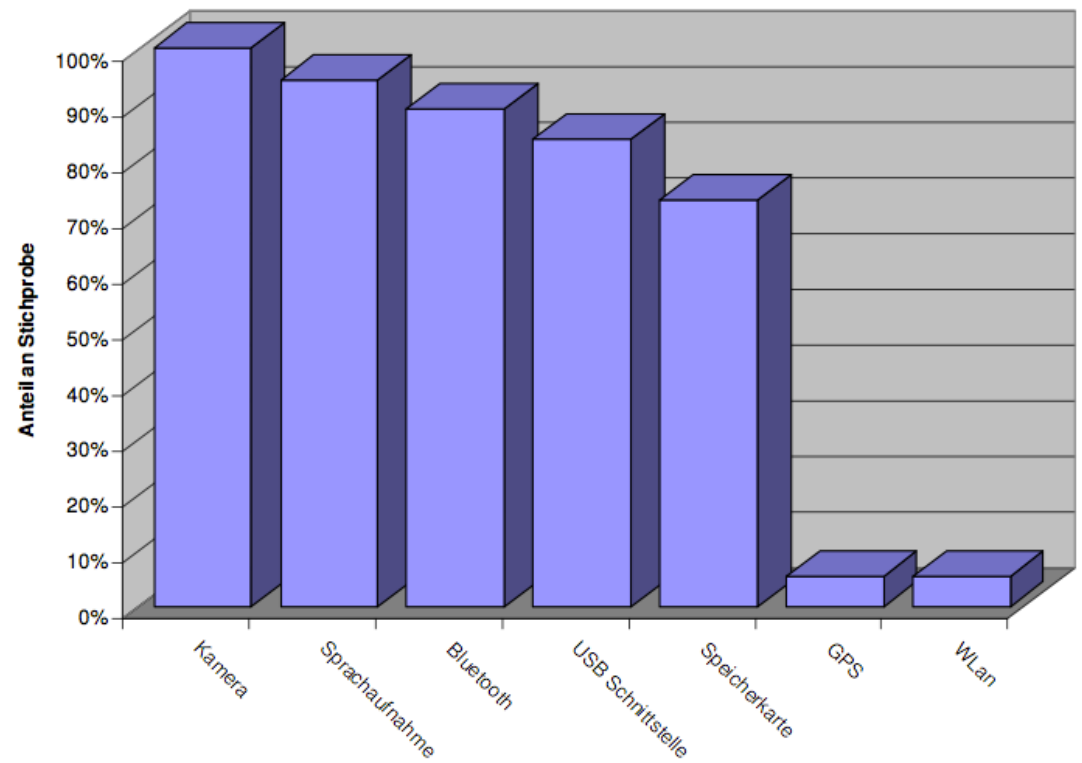
☐ Unter der Voraussetzung dass _____

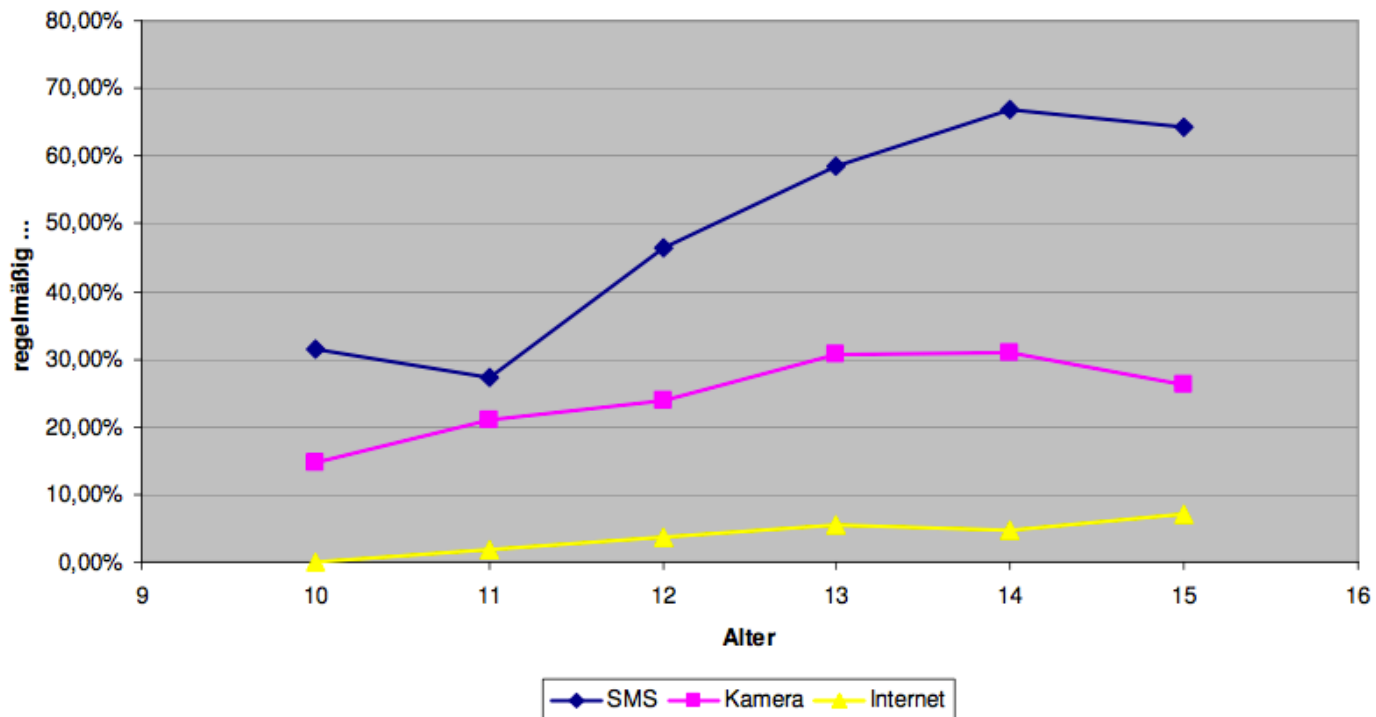
Vielen Dank!



**Besitz eines
Mobiltelefon**

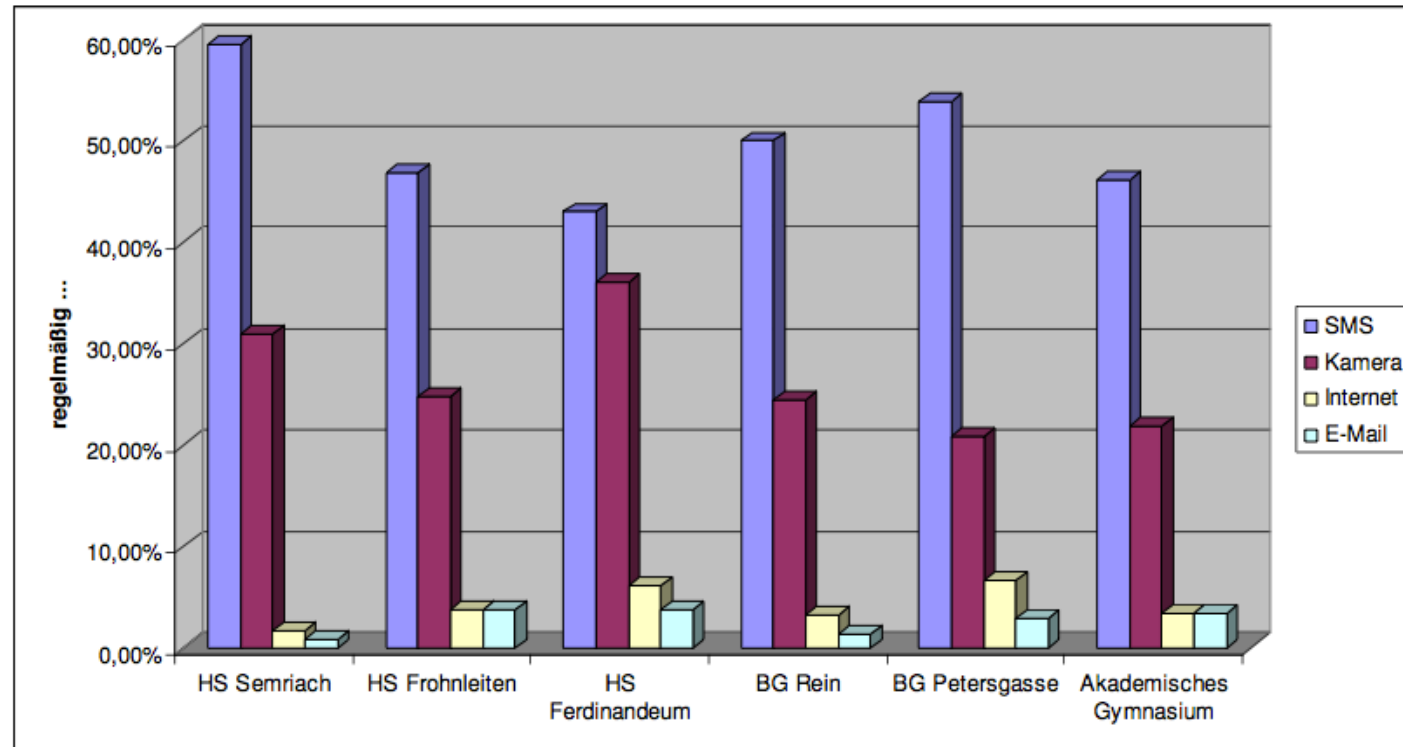
Techn. Ausstattung





Regelmäßige Verwendung

Verwendung nach Schule

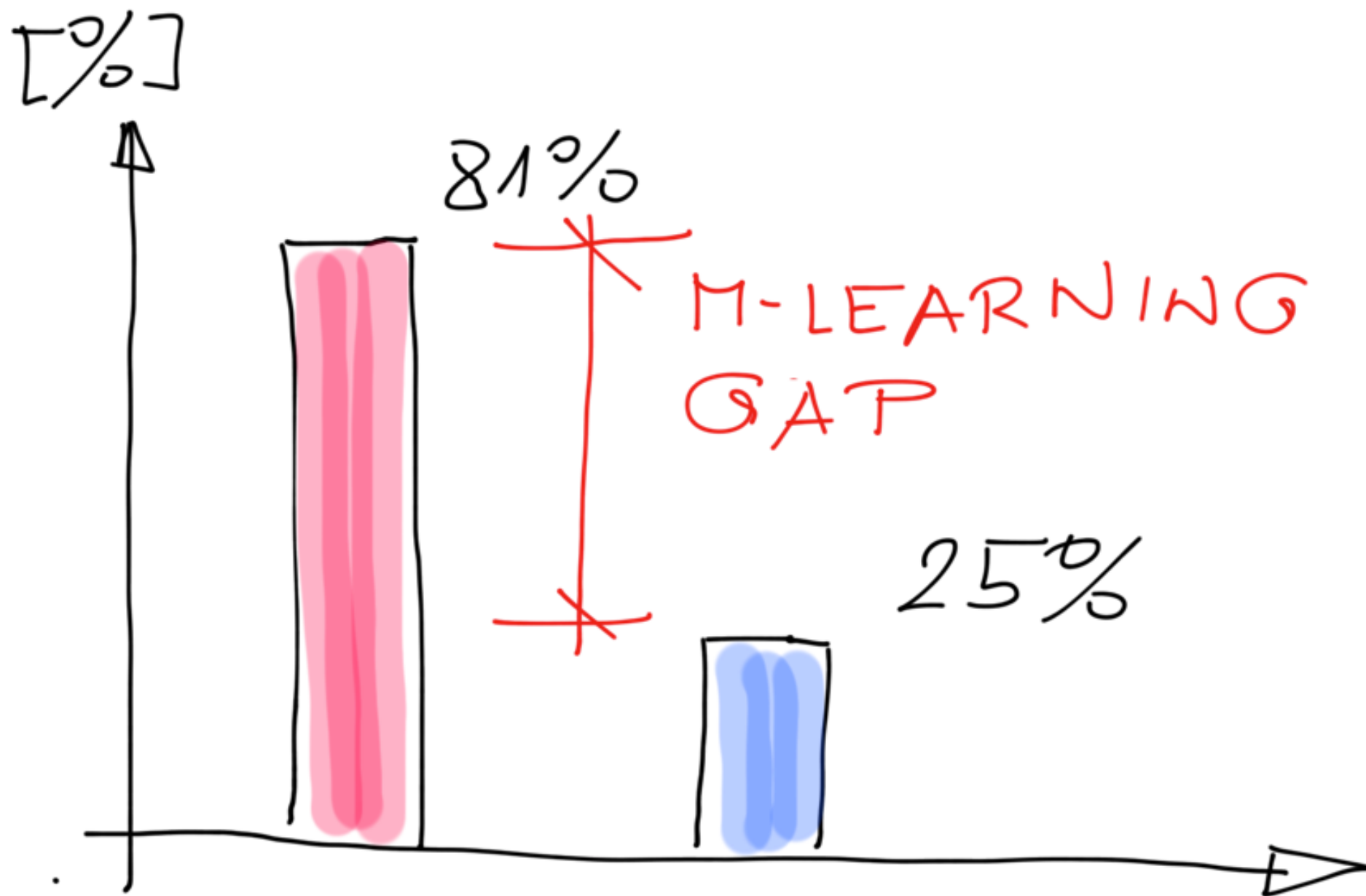


The 80-25 Gap

„**81%** der SchülerInnen würden ihre Telefon gern für Lehr- und Lernzwecke verwenden“

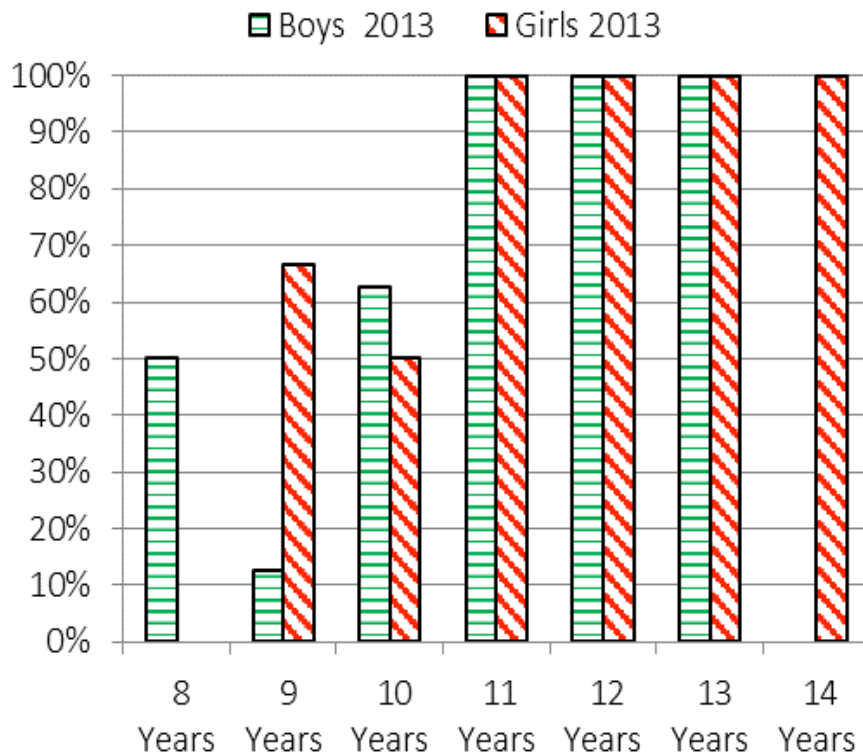
Ergebnis bei den 20 LehrerInnen:

- 100% haben eine Mobiltelefon
- **55%** konnten uns sagen welches Telefon sie haben
- nur **25%** hatten ein zu den SchülerInnen vergleichbares Device
- nur **25%** können sich vorstellen das Mobiltelefon im Unterricht einzusetzen

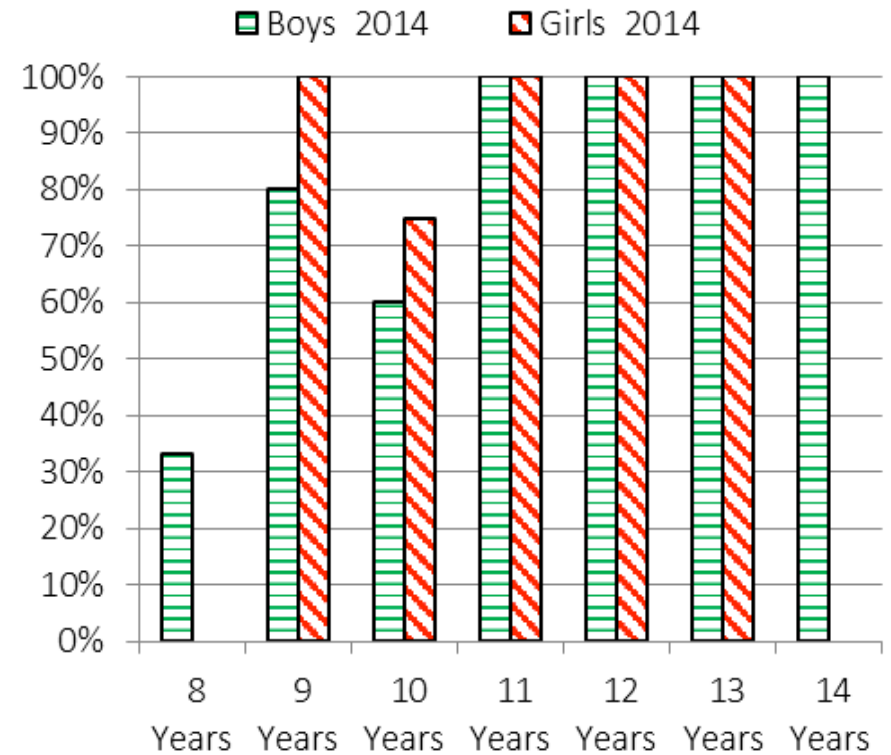


Besitz bei SchülerInnen 2013/2014 in Österreich

Ownership of mobile Phones in 2013



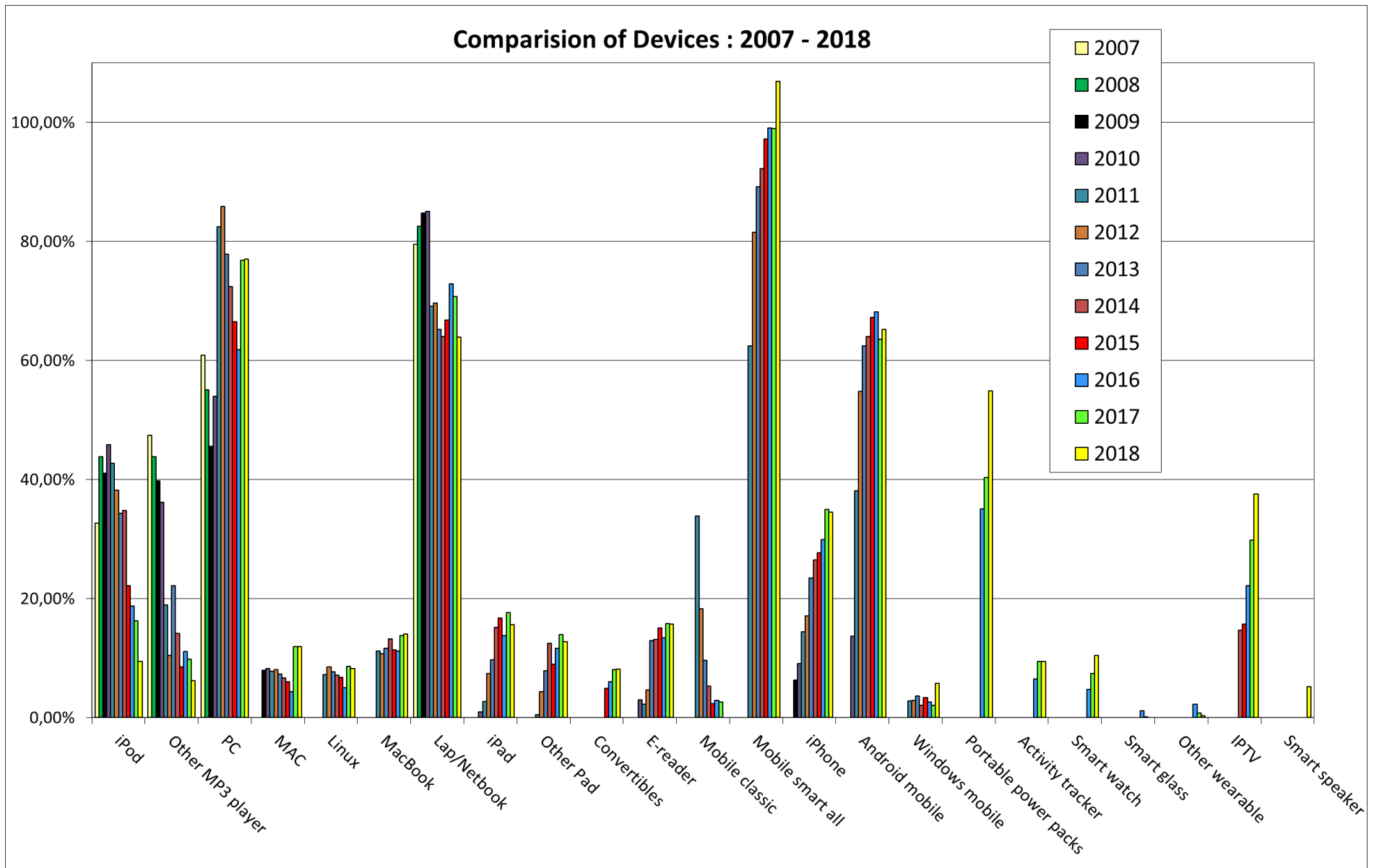
Ownership of mobile Phones in 2014



- 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

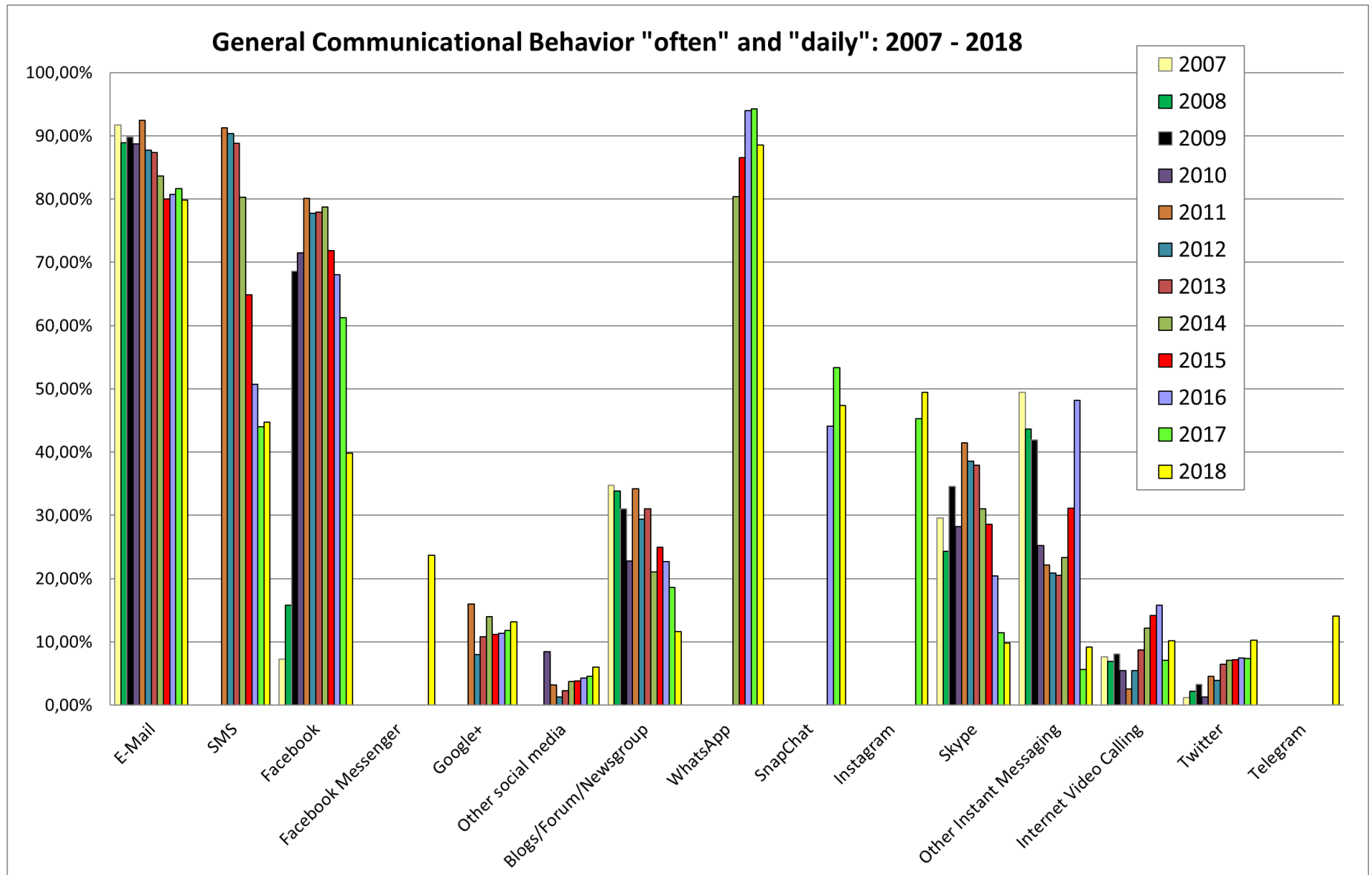
12-jährige
Langzeitstudie
(n=9565)

Welche Geräte besitzen Sie?

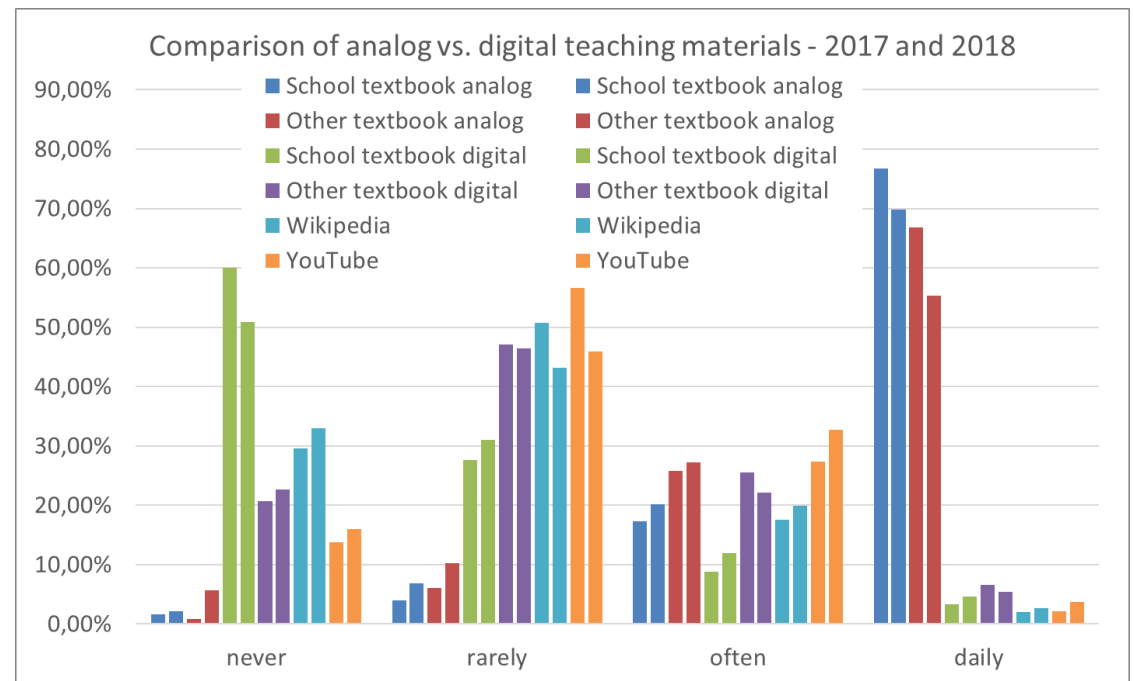
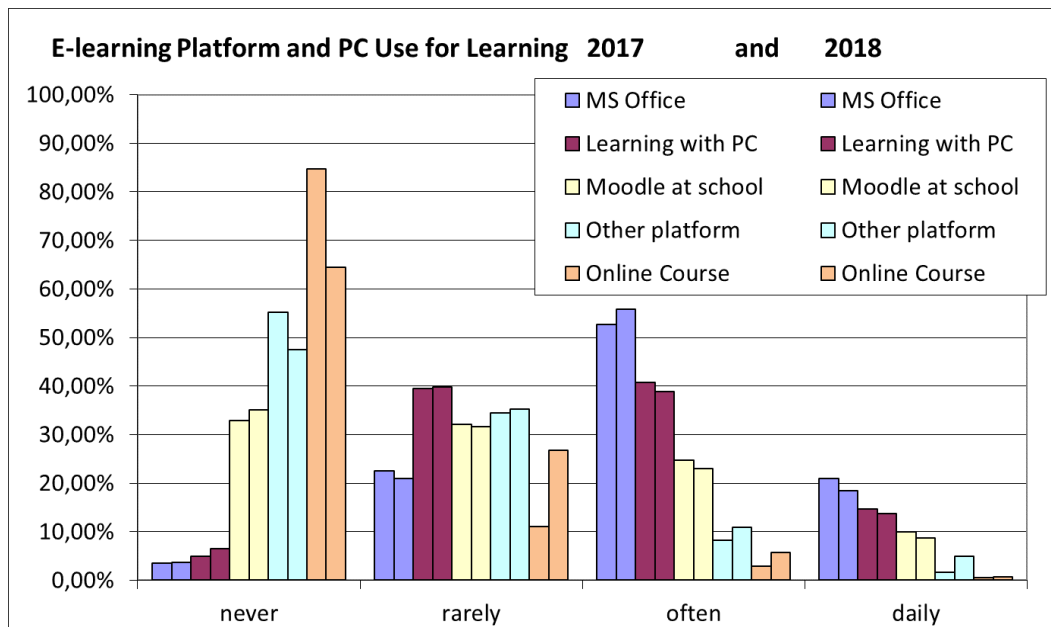


Nagler, W., Haas, M., Schön, M. & Ebner, M. (2019). Professor YouTube and Their Interactive Colleagues How Enhanced Videos and Online Courses Change the Way of Learning. In J. Theo Bastiaens (Ed.), *Proceedings of EdMedia + Innovate Learning* (pp. 641-650). Amsterdam, Netherlands: Association for the Advancement of Computing in Education (AACE).

Wie kommunizieren Sie?



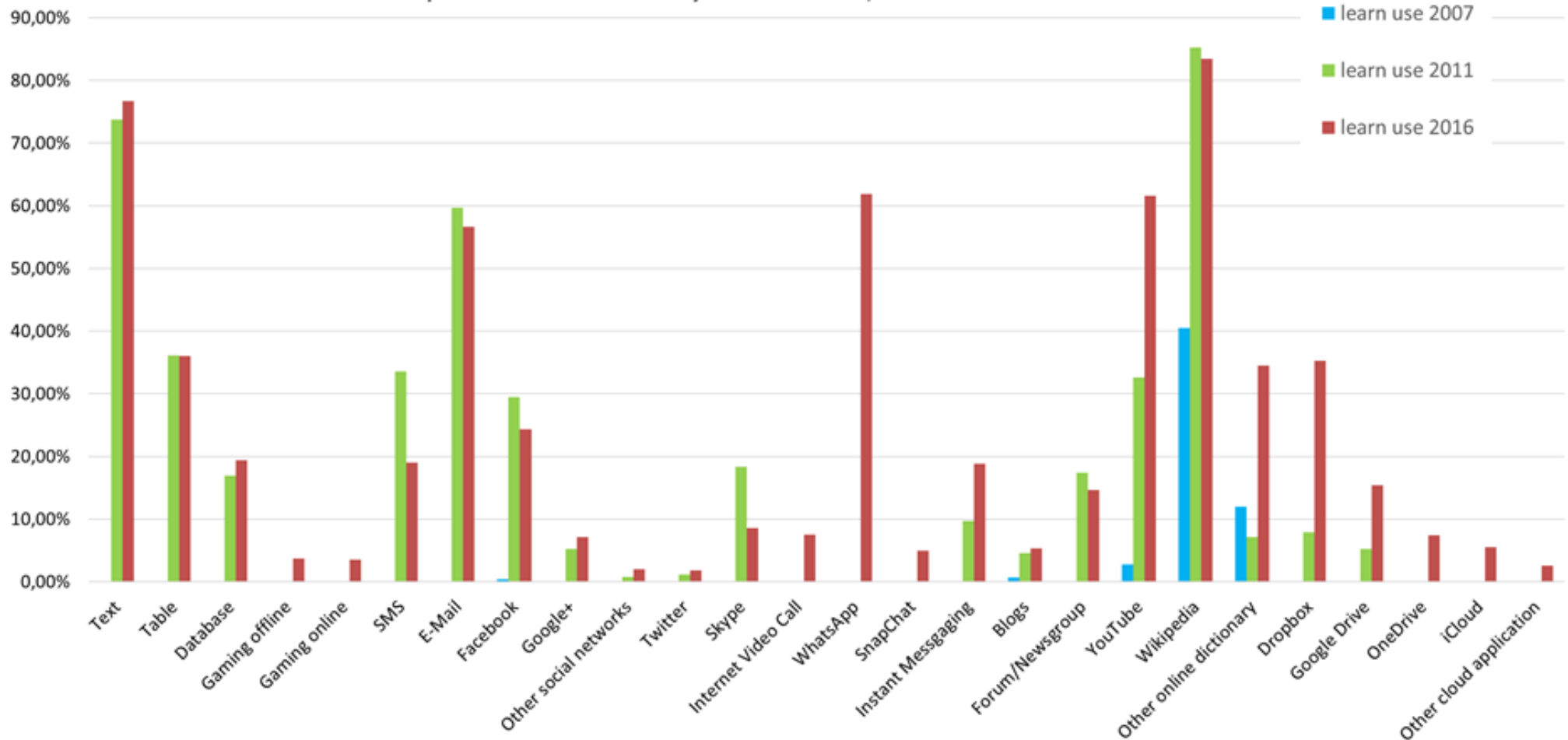
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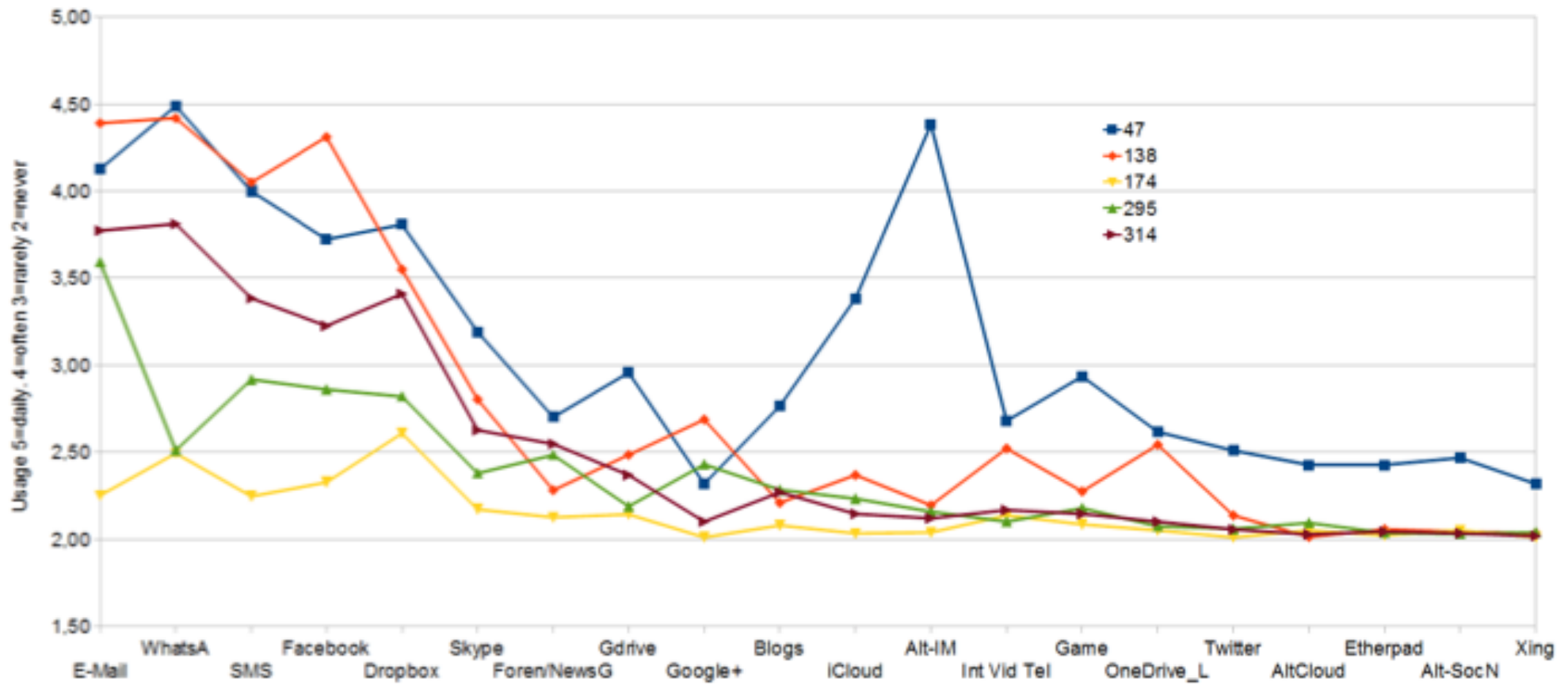
Verwendung zum Lernen

Comparison of Often and Daily LearnUse: 2007, 2011 and 2016

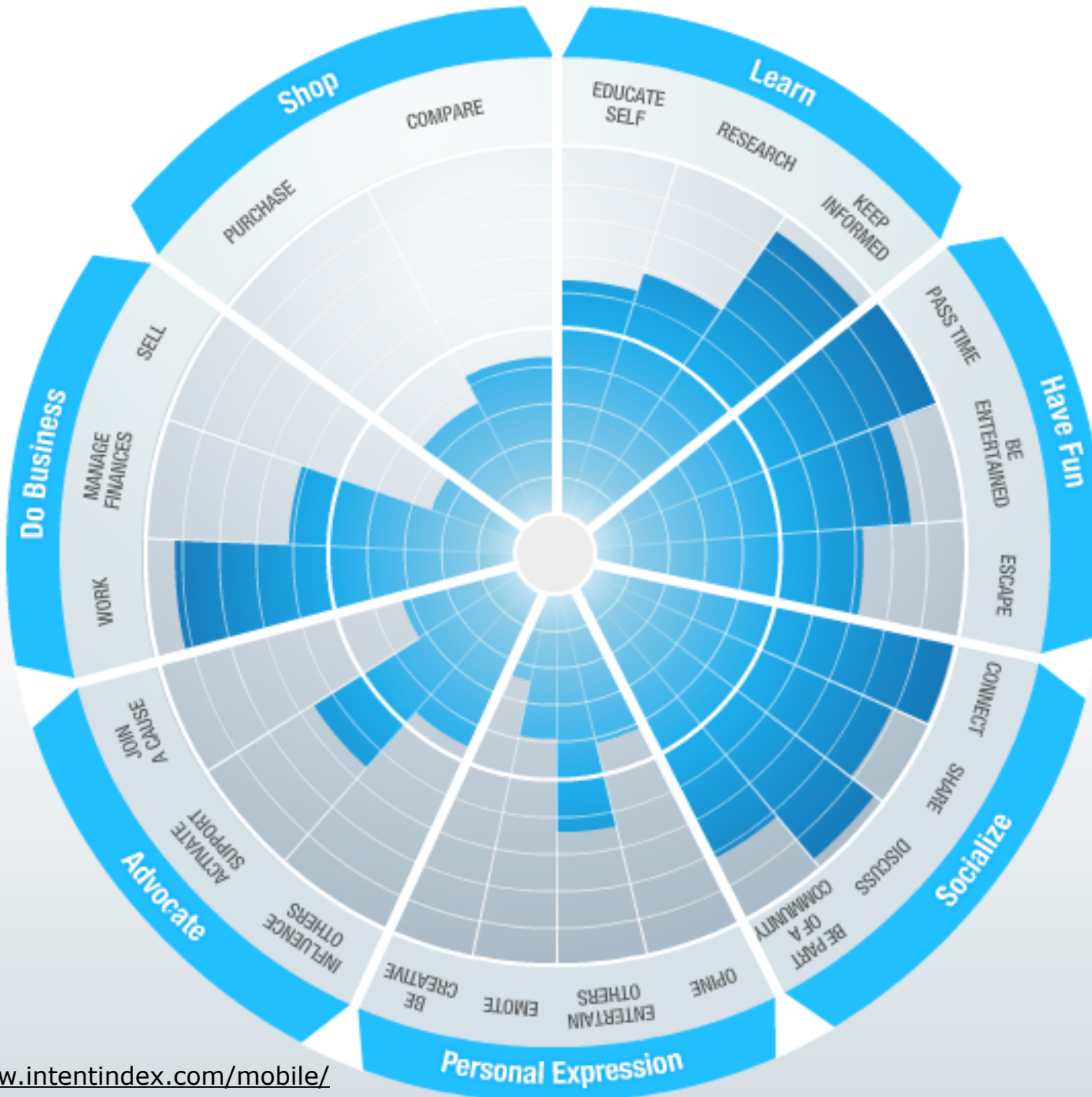


Nagler, W., Ebner, M. & Schön, M. (2017). Mobile, Social, Smart, and Media Driven The Way Academic Net-Generation Has Changed Within Ten Years. In J. Johnston (Ed.), *Proceedings of EdMedia: World Conference on Educational Media and Technology 2017* (pp. 826-835). Association for the Advancement of Computing in Education (AACE).

Social-Media-Verwendung



Ebner, M., Nagler, W., Schön, M. (2015) Why Facebook Swallowed WhatsApp!, In Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2015. pp. 1383-1392 Chesapeake, VA: AACE.



LEARN

EDUCATE SELF	64%
RESEARCH	69%
KEEP INFORMED	95%

HAVE FUN

PASS TIME	100%
BE ENTERTAINED	85%
ESCAPE	72%

SOCIALIZE

CONNECT	98%
SHARE	88%
DISCUSS	96%
BE PART OF A COMMUNITY	81%

PERSONAL EXPRESSION

OPINE	41%
ENTERTAIN OTHERS	64%
EMOTE	39%
BE CREATIVE	24%

ADVOCATE

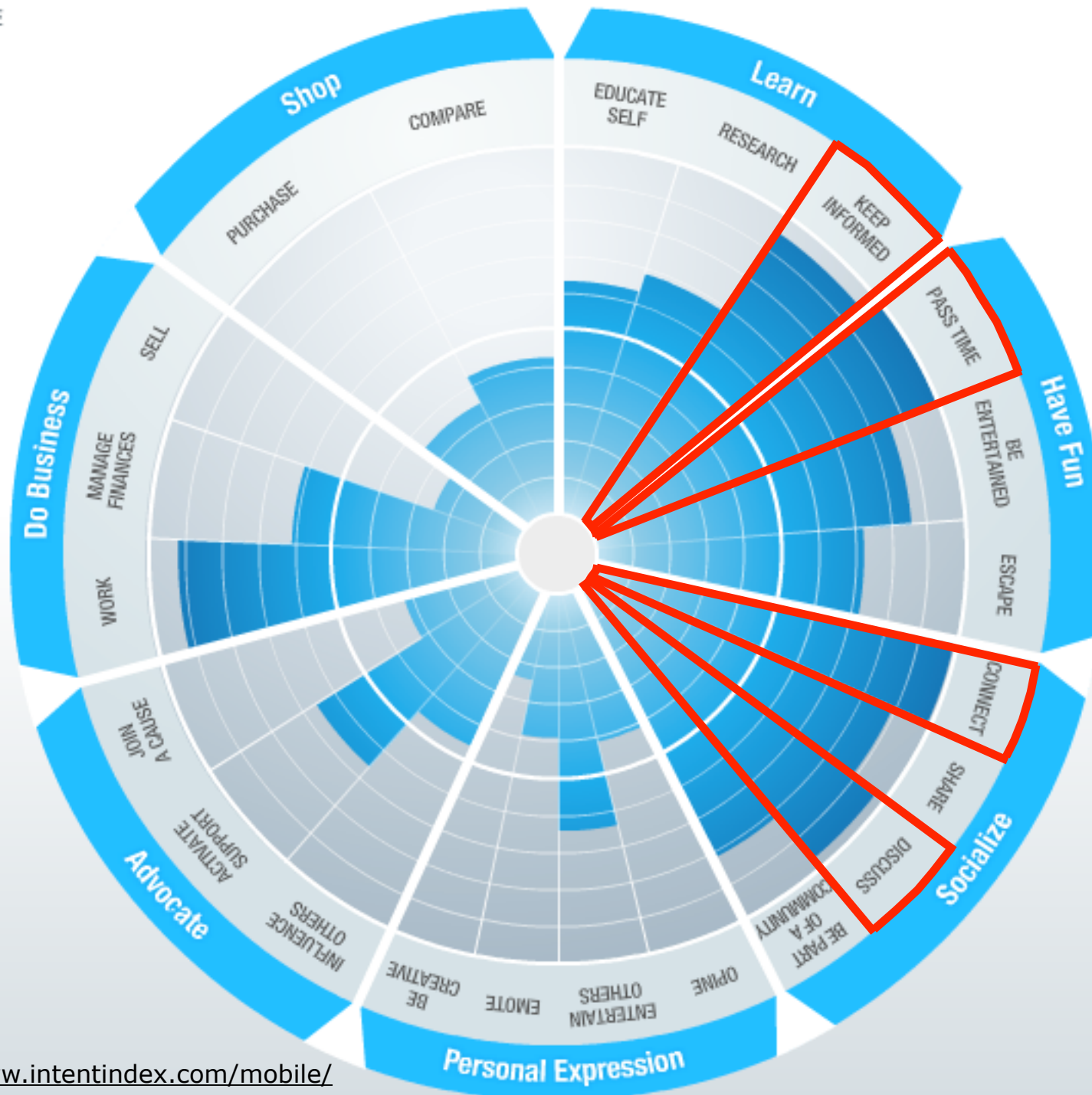
INFLUENCE OTHERS	47%
ACTIVATE SUPPORT	67%
JOIN A CAUSE	33%

DO BUSINESS

WORK	93%
MANAGE FINANCES	62%
SELL	25%

SHOP

PURCHASE	35%
COMPARE	43%



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Lernen neu denken



Implementing mobile devices in teaching and learning settings:

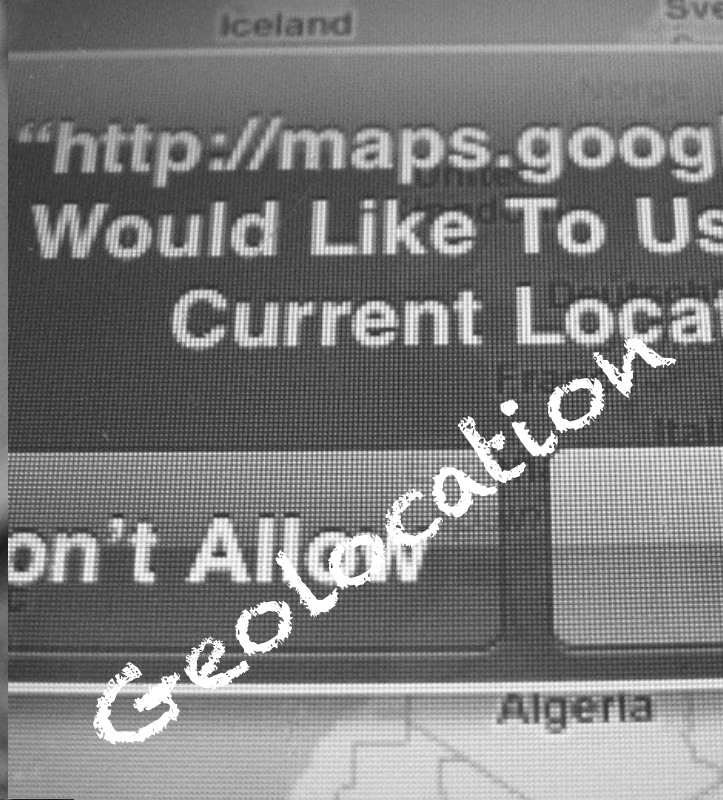
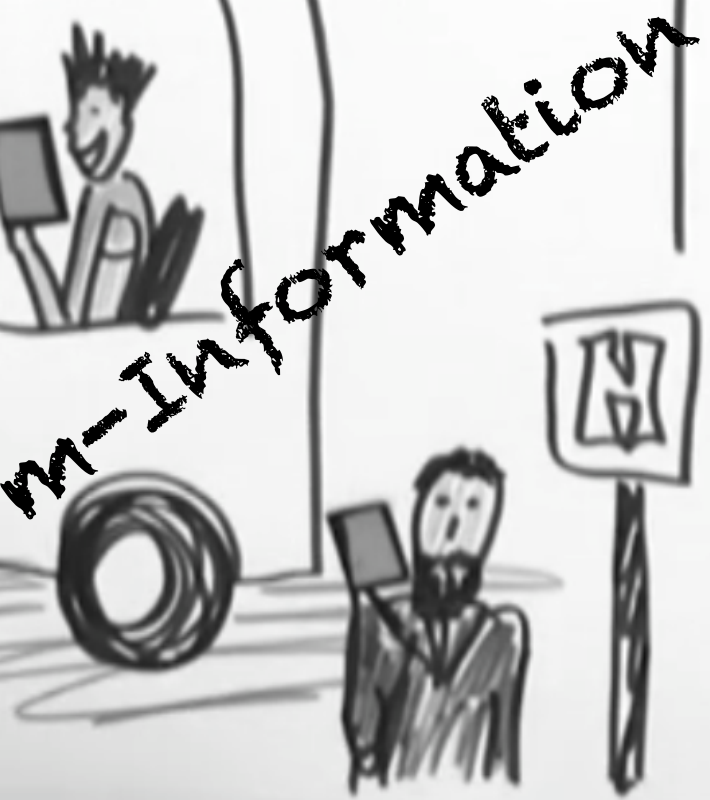
- Beaming of stored **information**
- **Location** awareness
- Portable **sound**- and voice-recording
- Cameras for taking **photos** and making video clips
- Connectivity for spontaneous **communication** and **collaboration** amongst learners

Kukulska-Hulme & Traxler, 2005

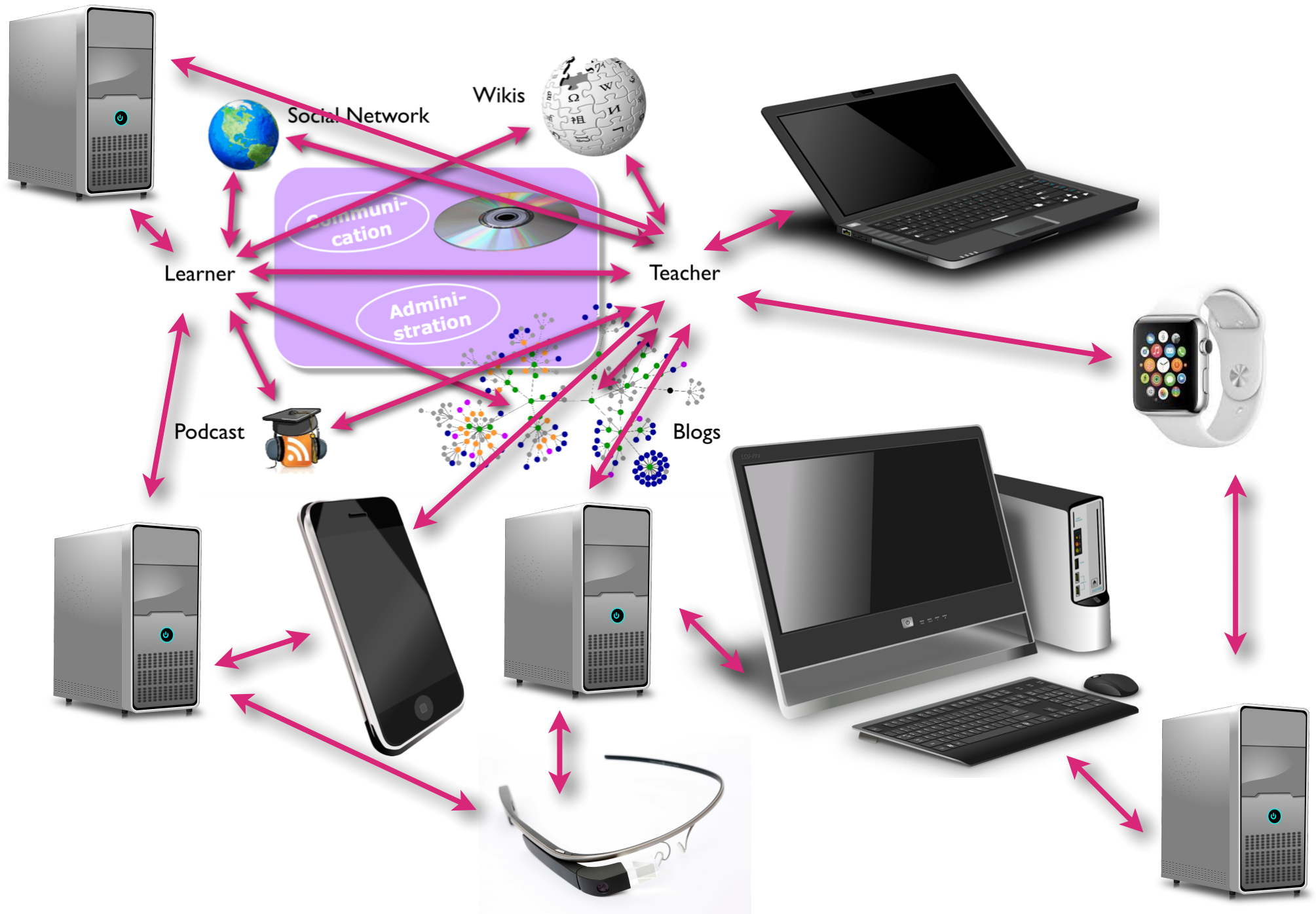
Lerntheoretische Ansätze

- Situatives Lernen: Hohe Authentizität der **Lernsituation**
- Sozial-konstruktivistische Lernansätze: Wissen entsteht durch **aktive** Teilnahme und Partizipation
- **Game**-based Learning
- **Kollaboratives** Lernen

Sandra Schön et al, 2010



Seamless Learning



Emerging technologies for education through Internet of things

- Technology Enhanced Classrooms
- Collaborative Learning (connection of devices)
- Learning Analytics
- Massive Open Online Courses
- Wearable technologies for learning
- Maker Movement

Maker Tools in Education



3D Printer



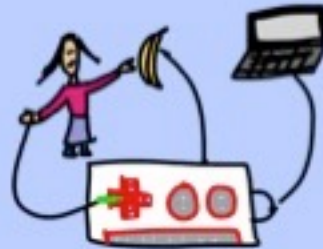
programming



robotics
(including drones)



hardware
(Arduino, Raspberry Pi,
Makey Makey)



analog devices
and tools



apps

Gruppenarbeit

Mobile Endgeräte im Unterricht

Plakat

Installieren Sie eine zugewiesene App auf einem mobilen Endgerät und probieren Sie diese aus. Oder wählen Sie eine Lernapp **Ihrer Wahl** und zeigen diese den anderen Gruppenmitgliedern.

Überlegen Sie wie diese App im Unterricht eingesetzt werden könnte. Beschreiben Sie die **Lernziele** und die **Zielgruppe**, wie schaut der **Einsatz** konkret aus? Welche **Vorteile** ergeben sich daraus und welchen **Herausforderungen** müssen Sie sich stellen?

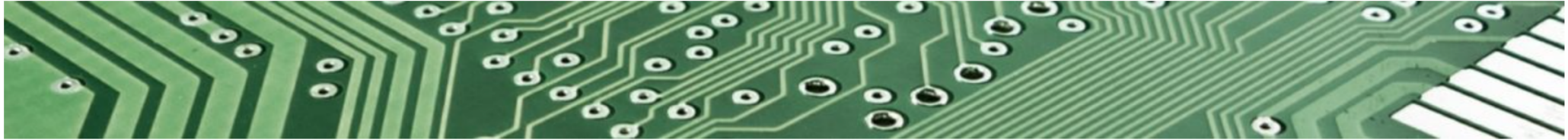
Mobile Endgeräte im Unterricht

Beispiel 1		Photomath https://photomath.net/en/
Beispiel 2		Socratis https://socratic.org/
Beispiel 3		MyScript Calculator https://www.myscript.com/calculator/
Beispiel 4		Chegg Math Solver https://www.chegg.com/math-solver/

Präsentation der Ergebnisse

Präsentation der Videos

Feedback zur Lehrveranstaltung



Slides available at:

<http://elearningblog.tugraz.at>



iMooX

Follow me!



@mebner

EDUCATIONAL TECHNOLOGY

Graz University
of Technology

Martin Ebner
(Bildungsinformatiker)

Yes, we care :-)

martin.ebner@tugraz.at
<http://elearning.tugraz.at>

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