



Durchführung von Online-Unterricht

Prof. Dr. Markus Dormann

Tagung Arbeitsintegration Schweiz

**Welche Fragen
interessieren Sie bezüglich
Onlinelehre/E-Learning
heute im Workshop!**

Gehen Sie auf [menti.com](https://www.menti.com)

Code: 6544 8226



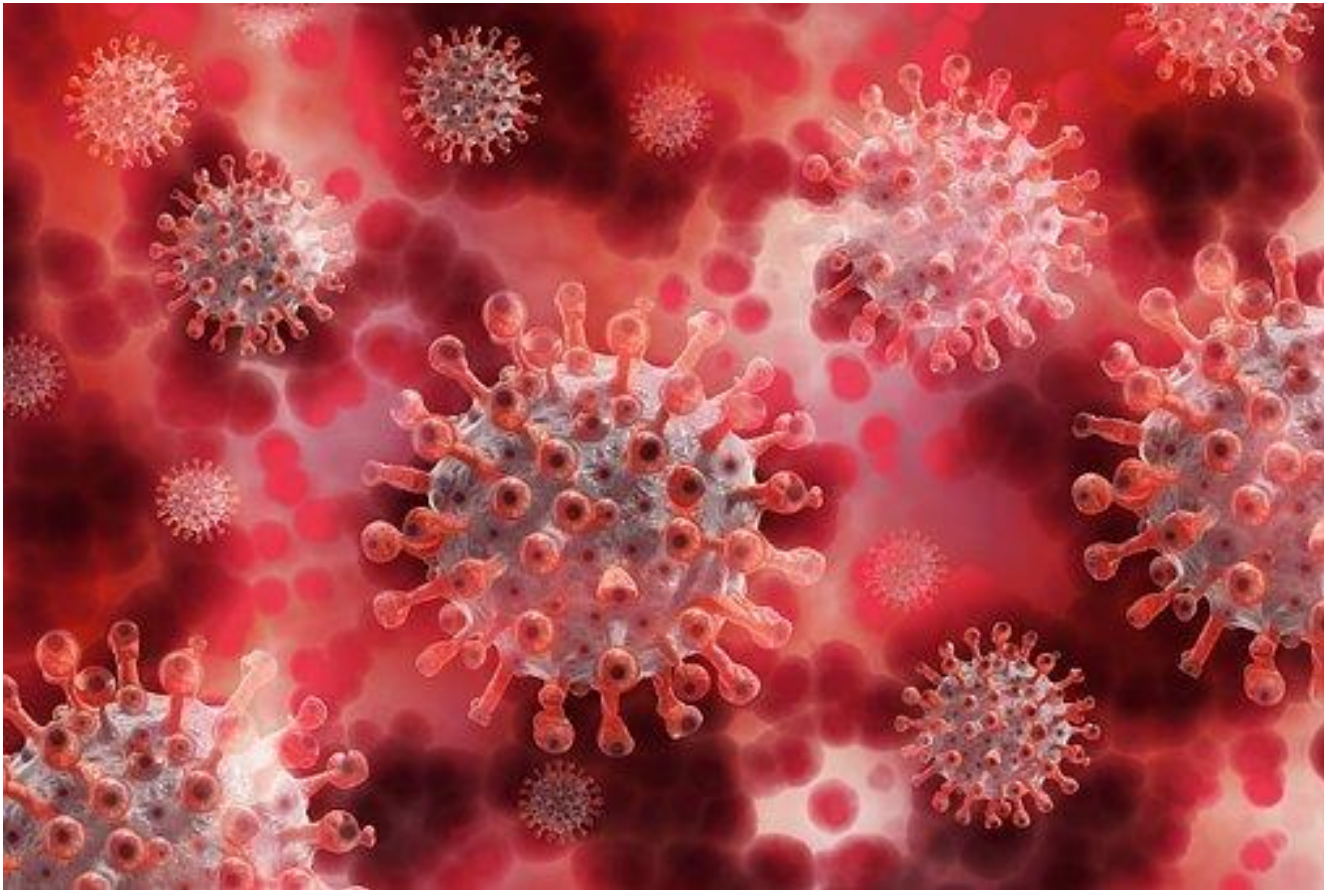
Digitale Transformation



Ausgewählte Treiber des Lernens/Onlinelernens I

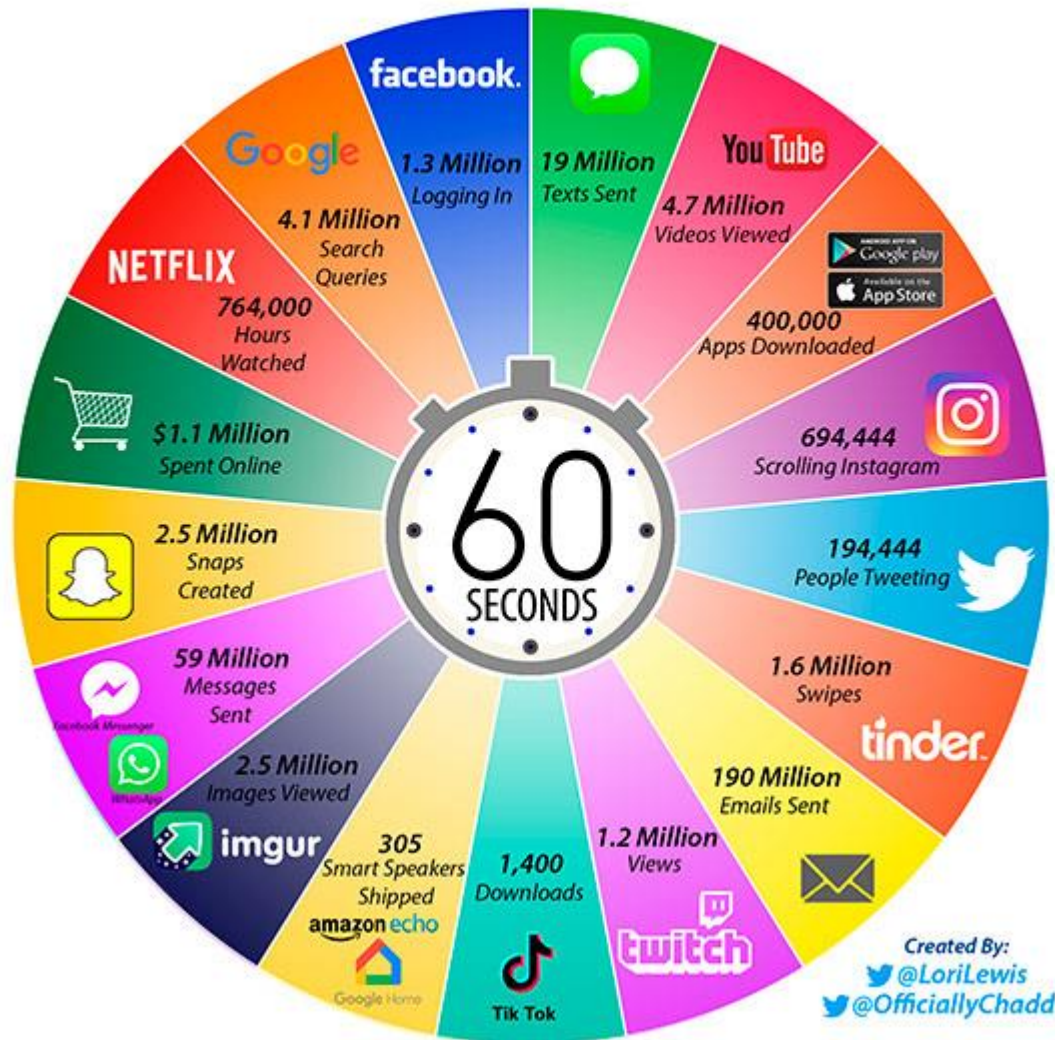


Ausgewählte Treiber des Onlinelernens II



(I) Digitale Transformation: Exkurs

2020 *This Is What Happens In An Internet Minute*



Inhalt



1. Onlinelehre an der FFHS

2. Trends des E-Learning

3. LERN-Modell als didaktische Planungsheuristik

4. E-Assessment: Homebased Exam Framework

5. Ausblick und Fragen

1. Onlinelehre an der FFHS

20 Jahre Blended Learning



FFHS 

Fernfachhochschule Schweiz
Zürich | Basel | Bern | Brig

Mitglied der SUPSI

NEVIN GALMARINI

FFHS – Unsere Philosophie von Bildung

Gründung 1998 20 Jahre mit Fernstudium

2004 Mitglied **Scuola universitaria professionale della Svizzera italiana**

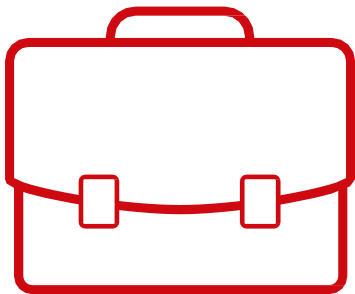
2'700 Studierende (Herbst 2020)

Studienmodell Blended Learning (80% / 20%)

Departemente Wirtschaft, Gesundheit, Informatik, E-Didaktik, Immobilien

berufsbegleitend, flexibel, familienfreundlich

Zielgruppen



Berufstätige



Leistungssportler



Menschen in der
Familienphase

Blended Learning an der FFHS

Grundprinzipien unseres Blended Learning



20% Präsenz – 80% Selbststudium

Lernen mittels Fachliteratur (offline) – Lernplattformen (online) –
Face-to-Face in Regionalzentren



Lernen/Üben/Anwenden von Theorie und Praxis

Vorbereitung zu Hause – Diskutieren von Fragen Face-to-Face –
Nachbereitung zu Hause



Blended Learning an der FFHS

- **Präsenzelemente** (z.B. Workshops, Seminare, Vorlesungen) und **Distanzelemente**, die alle E-Learning- und digitalen Kommunikationsformen integrieren können.
- Elemente einer klassischen **Phasenbildung für Lehr- und Lernprozesse** (z.B. Wechsel zwischen Theorieerwerb und Praxisphase, Laboruntersuchung).
- Elemente mit **unterschiedlichen Sozialformen** und **Steuerungsinstanzen** (z.B. Einzel- und Gruppenlernen).
- Elemente, in denen bestimmten zu erwerbenden **Kompetenzen oder Zielen** bestimmte Methoden zugeordnet werden (z.B. Rollenspiele zum Erwerb von Sozialkompetenzen).

Blended Learning und Erkenntnisse

Studien zu Blended Learning



Gute Dokumentation in der Hochschullehre (z. B. Hoffman, 2014; Murphree, 2014; Yarbrow et al., 2014; Wong & Chu, 2014)

Gemeinsame Präsenzzeit aktiver, wenn möglich auch partizipativer, zu gestalten und zur Vertiefung der Lerninhalte zu nutzen (vgl. Schäfer, 2012, S. 3f.)



Besondere Bedeutung von Lernvideos in der Onlinephase (Weidlich & Spannagel 2014)

Wege der aktiven Gestaltung sind wichtig (z. B. Lüth et al. 2014; Johnson et al. 2014)



Blended Learning und Erkenntnisse

Studien zu Blended Learning



Notwendigkeit der tutoriellen Unterstützung in der Onlinephase (z. B. Moran & Milsom, 2015, S. 35; Rudolph, 2014, S. 27)

Hoher Aufwand bei der initiativen Erstellung der Onlinephasen (vgl. Jensen et al., 2015, S. 10; Dittrich, 2014).

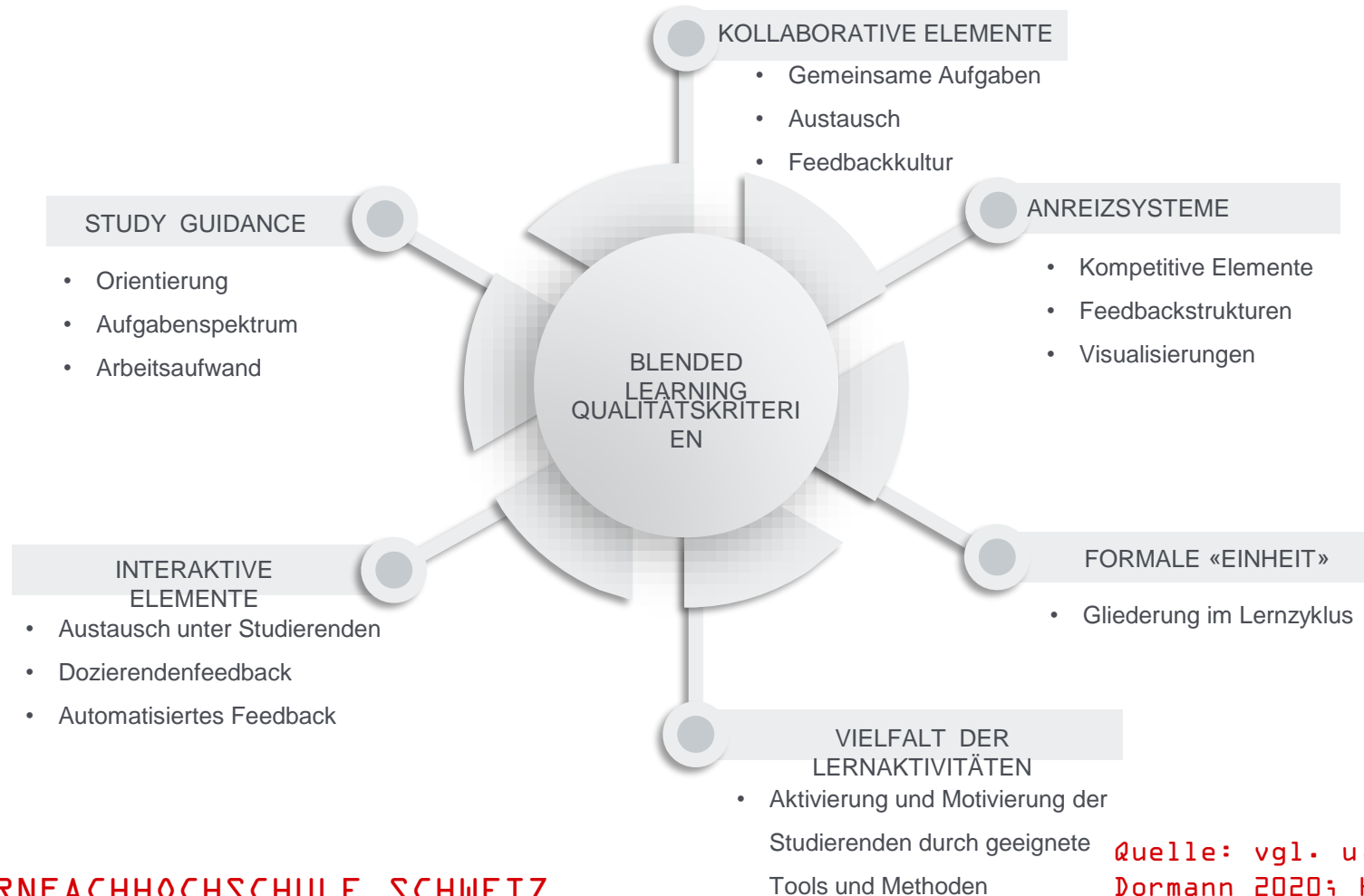


Gefahr: Höherer Zeitaufwand beim Lernenden (Keck und Thomann 2014)

„pedagogical buzzword of the day“ (Franqueira & Tunnicliffe, 2015, S. 57)



Zentrale Aspekte Onlinelernen I: Gütekriterien



Praxisbeispiel: Moodle FFHS

The screenshot shows a Moodle course page for 'FFHS MOODLE'. The browser's address bar indicates the URL 'moodle.ffhs.ch/course/view.php?id=4565'. The page features a dark sidebar on the left with various navigation options, including 'CAS eDid, 1 EmLL, Ersatz', 'Teilnehmer/innen', 'Badges', 'Bewertungen', 'Abschnitte', and 'Allgemein'. The main content area is titled 'FFHS MOODLE' and includes a search bar and a user profile for 'Markus Dormann'. The course content is organized into sections: 'Online-Lernen' (with a banner image of tablets), 'LERNZIELE' (Learning Objectives), 'AUFTRÄGE' (Assignments), and 'ZUSATZMATERIAL' (Additional Material). The 'LERNZIELE' section lists two objectives related to factors influencing online learning. The 'AUFTRÄGE' section lists three assignments: a forum post, a book chapter, and another book chapter, with checkboxes indicating their completion status.

FFHS MOODLE

Markus Dormann
Studierende

Online-Lernen

LERNZIELE

- Ich kann Faktoren, welche das Online-Lernen positiv wie negativ beeinflussen, nennen.
- Ich kann Vor- und Nachteile von mediengestütztem Lernen herleiten sowie erläutern.

AUFTRÄGE

Führen Sie bitte den nachfolgenden Auftrag zu mediengestütztem Lernen durch. (Einzelarbeit und Plenum, Aufwand ca. 3.5 h, bis zum offiziellen Ende des Ausbildungsblocks)

Forum: Mediengestütztes Lernen (= Leistungsnachweis)	<input type="checkbox"/>
Buch: Mediengestütztes Lernen 1	<input checked="" type="checkbox"/>
Buch: Mediengestütztes Lernen 2	<input checked="" type="checkbox"/>

ZUSATZMATERIAL

Weiterführende Materialien

2. Trends des E-Learning



**Posten Sie im Chat
die wichtigsten Trends
des E-Learning in Ihrem
Arbeitsumfeld**

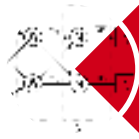
Arbeitszeit: 2 Minuten



Trendanalyse: E-Learning



E-Assessment



Adaptives Lernen



Virtuelle Lernumgebungen (AR, VR)



MOOCS



Microlearning

Trendanalyse: E-Learning



Gamification/ game based learning



Open Educational Resources/ Open Courseware



Digital Citizenship/
Queerschnittkompetenzen

Welche Veränderungen für Unterricht ergeben sich durch die Digitale Trnsformation!

Gehen Sie auf [menti.com](https://www.menti.com)

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Online- vs. Präsenzlehre

Achtung:

Vor- und Nachteile sind stark kontextabhängig!



Allgemeine Aussagen zur Onlinelehre

Weniger nonverbal Kommunikation der Lernenden und Lehrenden

Kürzere Aufmerksamkeitskurve

Grössere Ablenkungsmöglichkeit

Grössere Anonymität

Höhere Flexibilität bei der Lernzeit

Technische Mindesforderungen

Nötiges Anwender-know how (technology and procedures)

Ortsunabhängig

Weniger sozialer Contact

Unterschiedliche räumliche Voraussetzungen

Ggfs. Kosten und Zeitersparnis



Online- vs. Präsenzlehre



- Die Gegenüberstellung von realen und virtuellen Räumen greift zu kurz, da auch «reale» Räume «virtuelle» Bestandteile aufweisen können und vice versa.
- Lehr-Lern-Szenarien können verschiedene Medien und Sozialformen zur Wissensvermittlung nutzen, sowohl in Präsenz- als auch in Onlinelehre.
- Onlinelehre hinterfragt das Selbstverständnis der Lehrenden und hat Auswirkungen auf Lehrkonzeption sowie Rollen- und Subjektverständnis der Beteiligten.
- Sowohl Online- als auch Präsenzlehre hat in diversen Ausführungen spezifische infrastrukturelle Anforderungen.



Online-Unterricht und Erkenntnisse

Studien zum Online-Unterricht



Bedeutung von digitalen Lernumgebungen für Motivation und Zufriedenheit (z. B. Drugova et al. 2021, S. 11; Amir et al. 2020, S. 7)

Synchroner Fernunterricht fördert Lernen und Engagement der Teilnehmenden (vgl. Alamer & Alharbi 2021, S. 6f.; Boeckmann et al. 2020, S. 36)



3D Multi-User Virtual Environments verstärken kollaboratives Lernen (z. B. Bilgiç et al. 2019, S. 229; Ogbuanya & Onele 2018, S. 240)

Förderung des Gemeinschaftsgefühls durch zusätzliche Nutzung sozialer Plattformen wie Facebook (vgl. Kocdar et al. 2018, S. 111f.)



Online-Unterricht und Erkenntnisse

Studien zum Online-Unterricht



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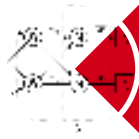
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Trendanalyse: E-Learning



E-Assessment



Adaptives Lernen



Virtuelle Lernumgebungen (AR, VR)



MOOCS



Microlearning

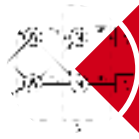
Virtual Reality an der FFHS



Trendanalyse: E-Learning



E-Assessment



Adaptives Lernen



Virtuelle Lernumgebungen (AR, VR)



MOOCS



Microlearning

Adaptives Lernen an der FFHS

ALMoo Introduction-Video: Matthias Holthaus

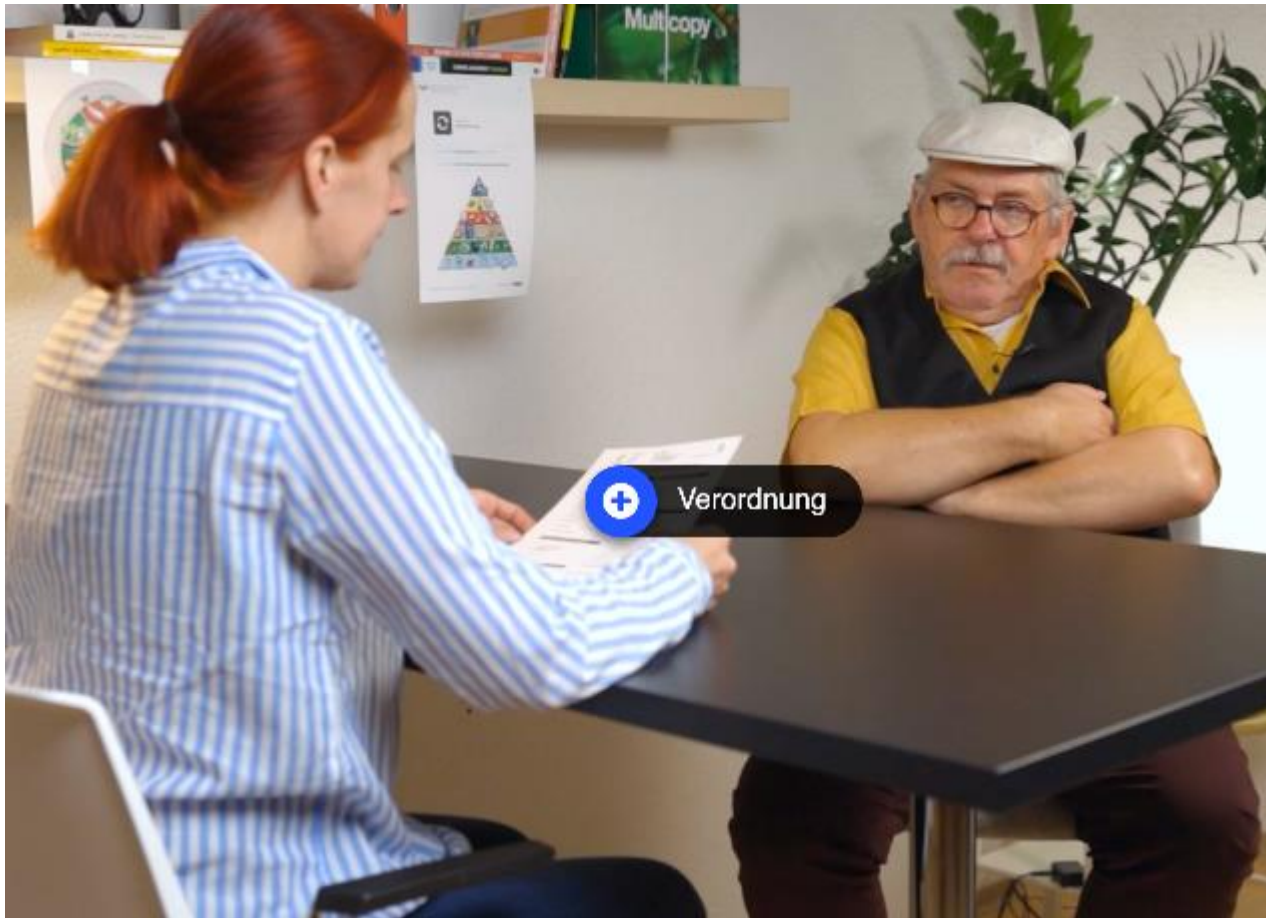


Idee des adaptiven Lernens

Lernprozesse individuell und bestmöglich unterstützen



Branching Scenario



Ausbildung zu
Beratungs-
gesprächen in der
Ernährungsberatung

Interaktive Video-
Sequenzen

3. Das LERN-Modell als didaktische Planungsheuristik



Posten Sie wie sich Kompetenzprofile durch Digitale Transformation in der Arbeitsintegration ändern!

Gehen Sie auf [menti.com](https://www.menti.com)

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Nachhaltigkeit und das Trojanische Pferd 2.0

Time Tunnel – aus 20 Jahren Distanz

Vortrag von H. Mandl – Lernkultur als komplexes Unterfangen

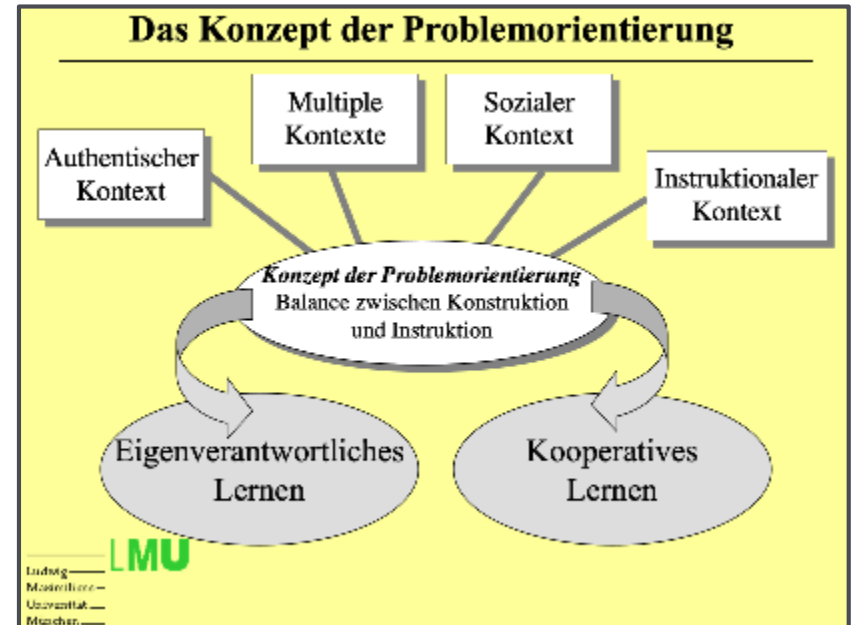
Ein aktiver, konstruktiver, selbstregulierter, emotionaler, situativer Prozess

Auf dem Weg zu einer neuen Kultur des Lehrens und Lernens
Eine pädagogisch-psychologische Perspektive des virtuellen Lernens



Prof. Dr. Heinz Mandl
Lehrstuhl für Empirische Pädagogik und Pädagogische Psychologie

LMU
Ludwig-Maximilians-Universität München



Trojanisches Pferd 1.0 (2001)

Die neuen Medien als Trojanisches Pferd



LMU
Ludwig _____
Mozart _____
Uzarski _____
Muzchen _____

Mandl endet mit der Metapher:

«Die Neuen Medien sind das trojanische Pferd, mit dem wir die Neue Pädagogik in die Bildungsinstitutionen hinein bringen.»

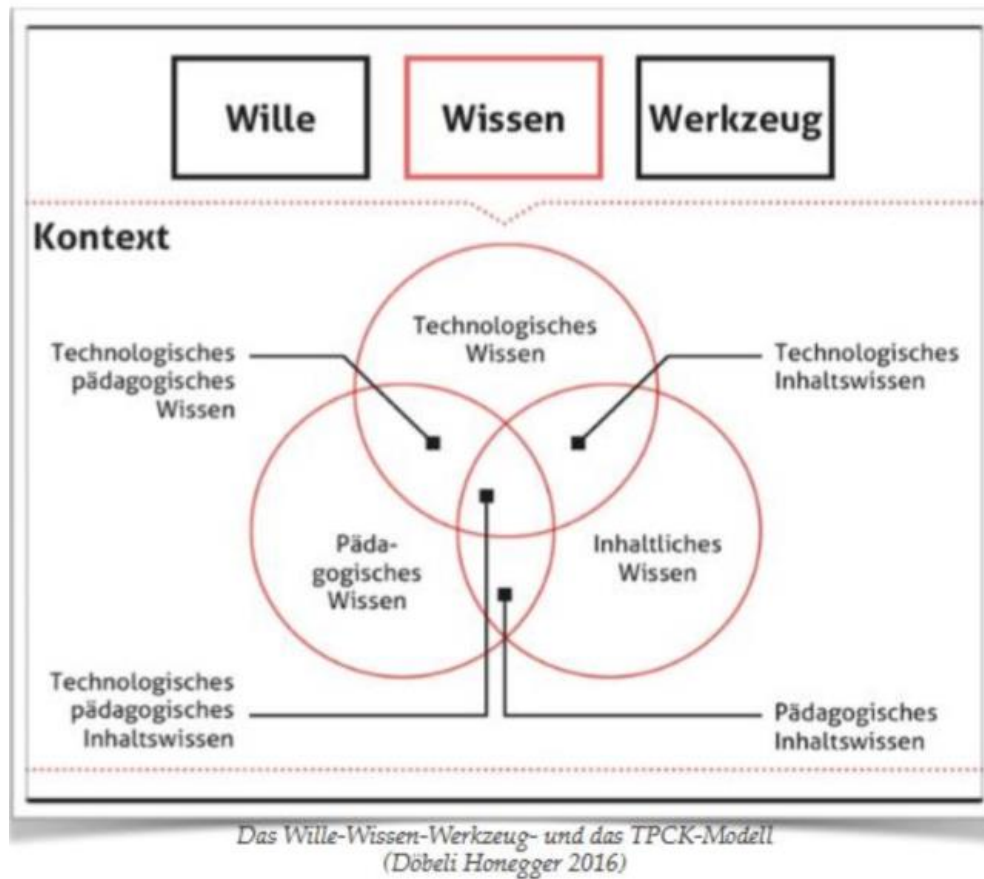
Das Trojanische Pferd 2.0



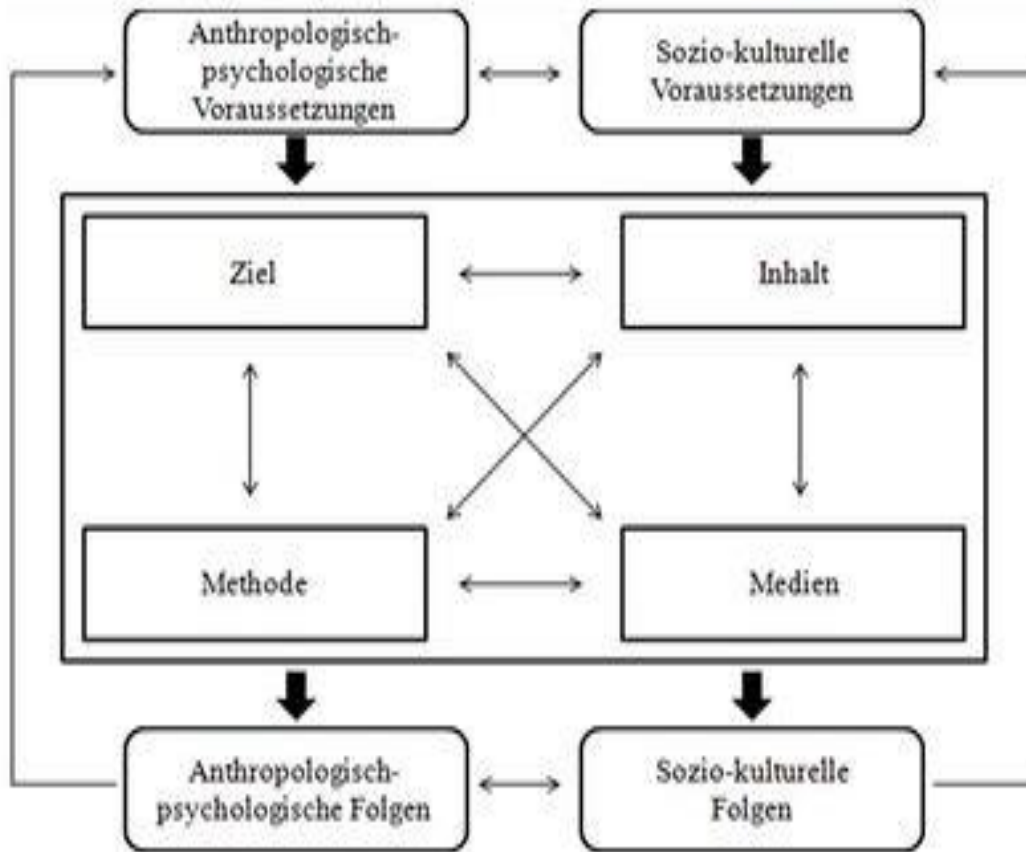
**Zunächst Ernüchterung –
Trojanisches Pferd 1.0**
Technische Innovationen führen nicht
automatisch zu pädagogischen
Innovationen. (vgl. Oerter et al. 2010)

**Neue Chance –
Trojanisches Pferd 2.0**
Mit geeigneten Investitionen in
didaktisches Know-how,
Infrastruktur und
Organisationsentwicklung kann
technische Innovation auch
zu didaktischer Innovation führen.
(Dormann, Hediger 2020)

Ansatzpunkt TPACK-Modell

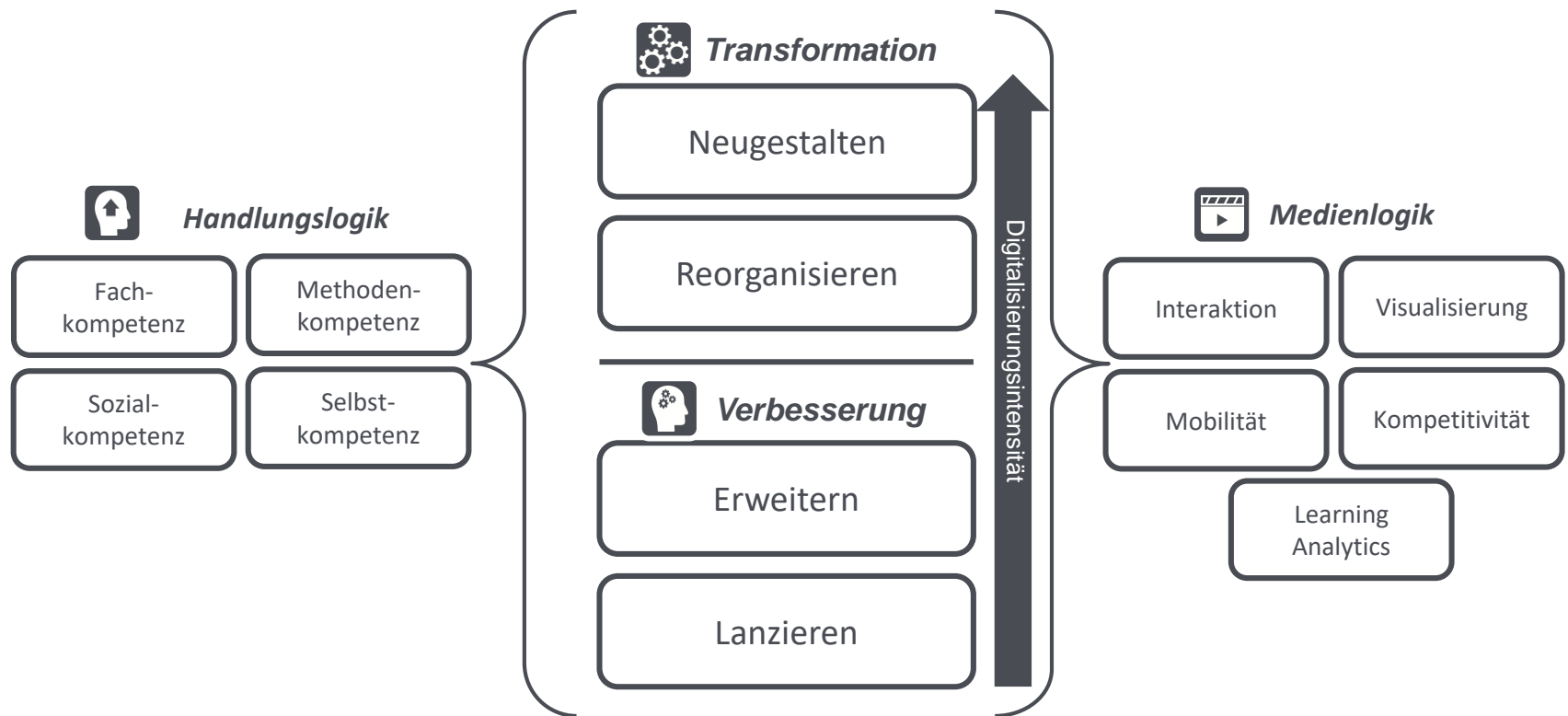


Berliner Didaktikmodell



Quelle: Heimann/Otto/Schulz

LERN-Modell als Planungsheuristik



Quelle: vgl. u.a. Dormann 2020; Dormann 2017;
Gerholz/Dormann 2018; Puentedura 2007

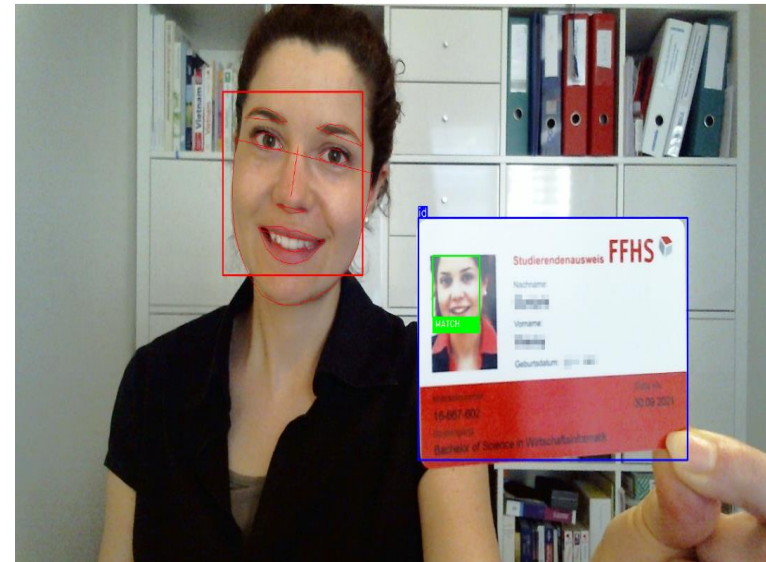
4. E-Assessment: Homebased Exam Framework



Grundlagen E-Assessment

- Rechtliche Prüfung der Ausgangssituation
- Evaluation der Ausgangssituation und verschiedener möglicher Verfahren
- Information für Studierende und Dozenten (technische Anforderungen, Ablauf, Termine..)
- Eigener Exam-Moodle-Kurs und Modul
- Videos
- Support-Hotline, Supporthandbuch, Dashboard
- Musterprüfung

- Überwachung ex post: Webcam, Audio and Screen



Übersicht Zahlen

Abgenommene Prüfungen: ca. 7500

3 eingesetzte Methoden

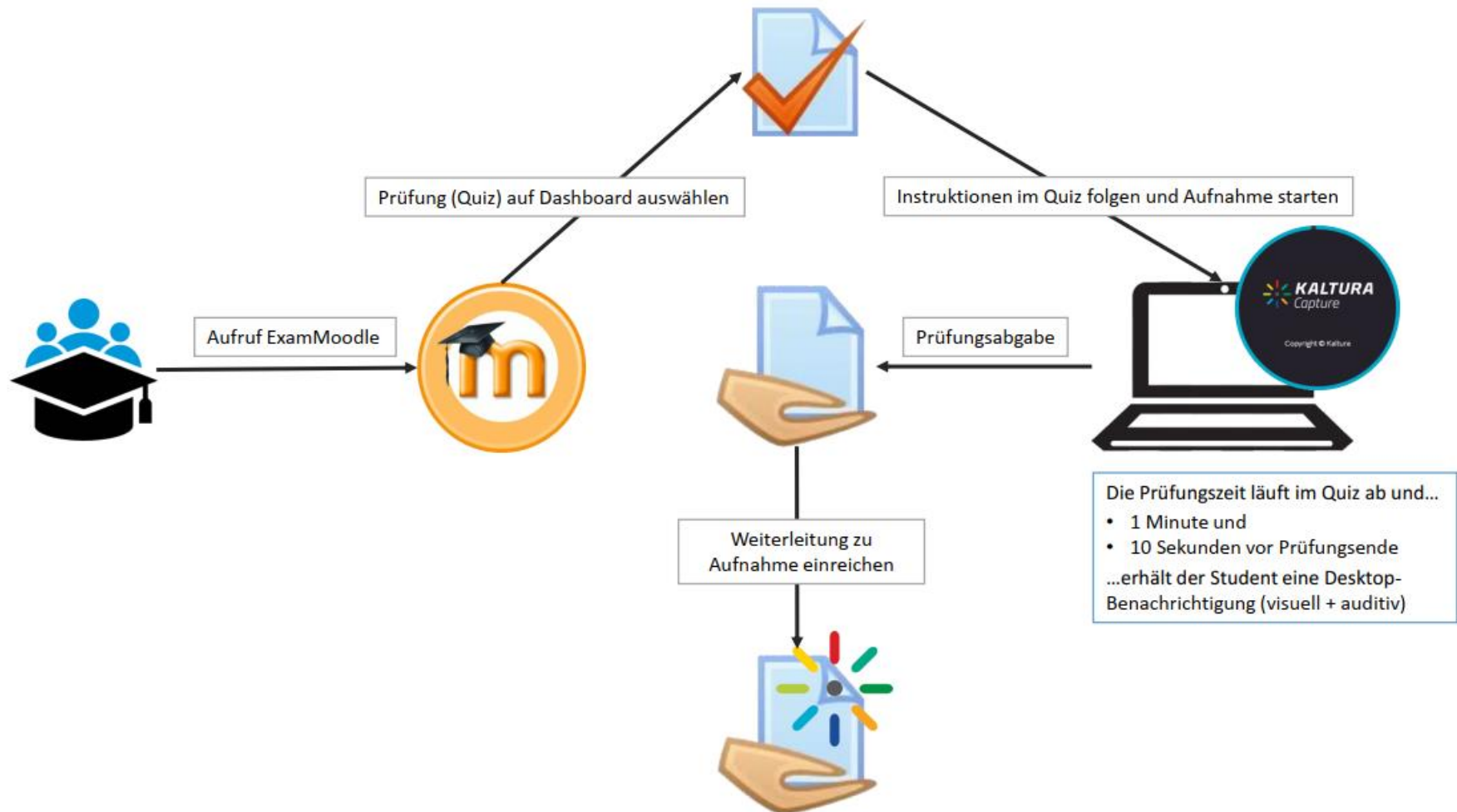
- Online
 - mit Word
 - Paper-Pencil
-
- Umfassende Empirische Befragung qualitativ und quantitativ (n=900)

Homebased Prüfungen (Einstieg)



The screenshot shows a video player interface with a red background. At the top left, there is a logo for 'FFHS' and the text 'Ablauf E-Assessment (Moodle)'. In the top right corner, there are icons for 'Später ans...' (later) and 'Teilen' (share). A dark grey button in the center-top reads 'Zum Beenden des Vollbildmodus Esc drücken'. The main content area features the title 'Ablauf E-Assessment' in large white text, followed by the subtitle 'Dieses Video zeigt, wie ein E-Assessment typischerweise abläuft.' in smaller white text.

Übersicht Ablauf



Dashboard des Exam Moodle

examoodle-t3st.ffhs.ch:8443/report/ffhs_exam_cockpit/index.php?perpage=50

Apps Allgemein FS21 – OneDrive ME - WS20 E-Assessment Projekte Weitere Lesezeichn

FFHS EXAM T3ST MOODLE Norman Guedenbaum

Dashboard > FFHS Cockpit > Berichte > FFHS Exam Cockpit

BLOCKBEARBEITUNG EINSCHALTEN

Übersicht der Kurse

Es gibt insgesamt 0 Studierende online ALLE 109 ANZEIGEN

Modulprüfung Alle Arten Sortiert nach Kursname HS20/21

1 2 3 »

Kurs-ID	Kursname	Teilnehmer/innen	Studenten online	Kennzeichnung	Versuche	Datei Abgabe	Video Abgabe
413	ACF10.HS20/21	22	0	noseb record	0/0/0/0/0/0/0/0		
446	ACF15.HS20/21	19	0	assign noseb paper record	0/0/0/0/0/0/0/0	0/0/0/0/0/0/0/0	0/0/0/0/0/0/0/0
447	ACF20.HS20/21	11	0	assign noseb paper record	0/0/0/0/0/0/0/0	0/0/0/0/0/0/0/0	0/0/0/0/0/0/0/0
429	ARB1.HS20/21	14	0	noseb record	13	1 1	13
391	BWL1.HS20/21	89	0		0/0/0/0/0/0/0/0		
427	BWL2.HS20/21	22	0	noseb record	0/0/0/0/0/0/0/0		0/0/0/0/0/0/0/0
482	D&A.HS20/21	99	0		0/0/0/0/0/0/0/0		

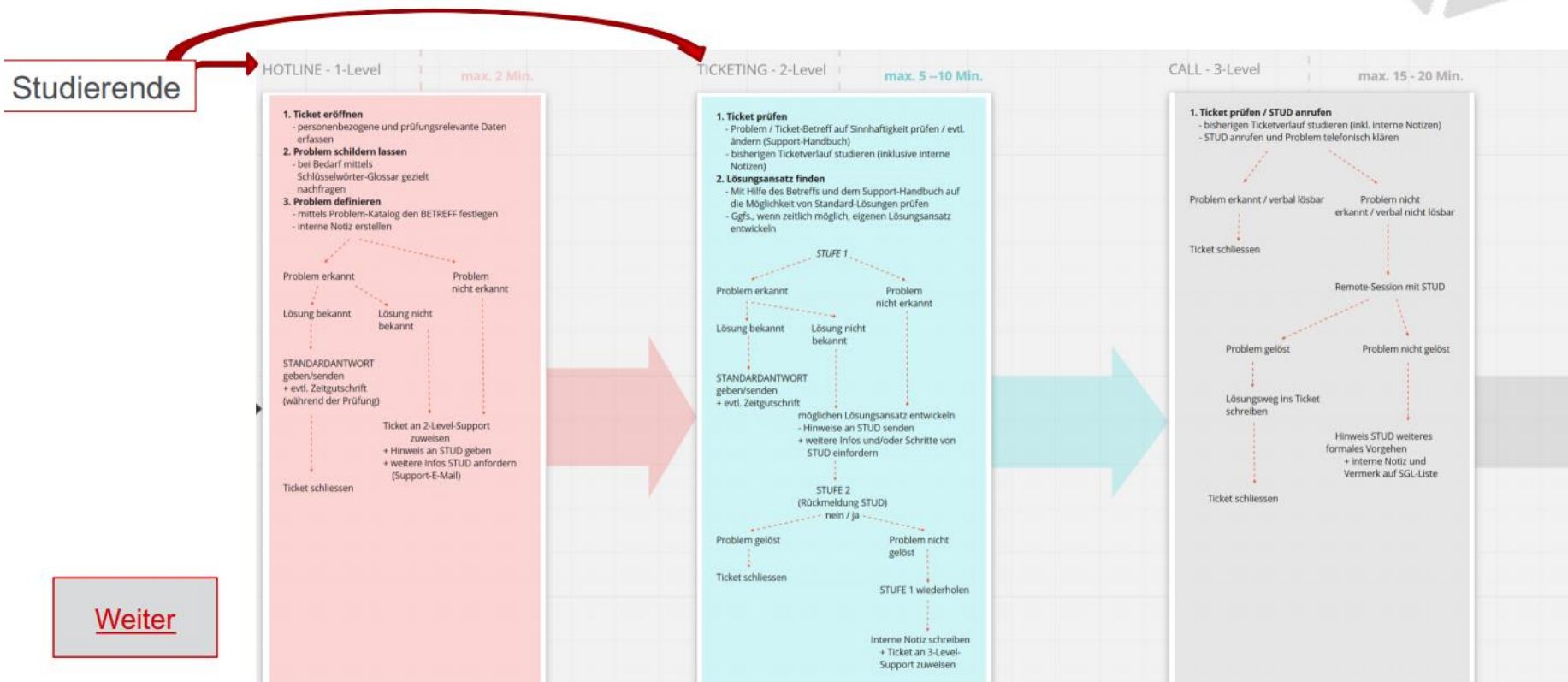
Personen online

3 Personen online (in den letzten 5 Minuten)

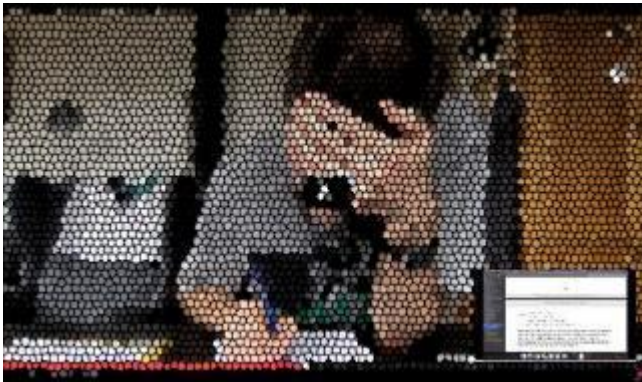
- Norman Guedenbaum
- Adrian Perez Rodriguez
- Markus Dormann

Prüfungshandbuch

Prüfungs-Support-Prozess im Überblick

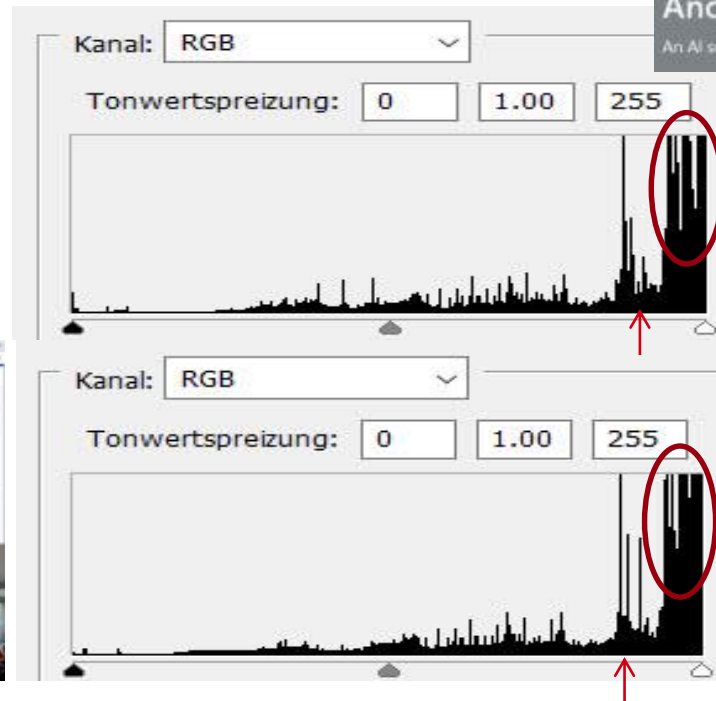
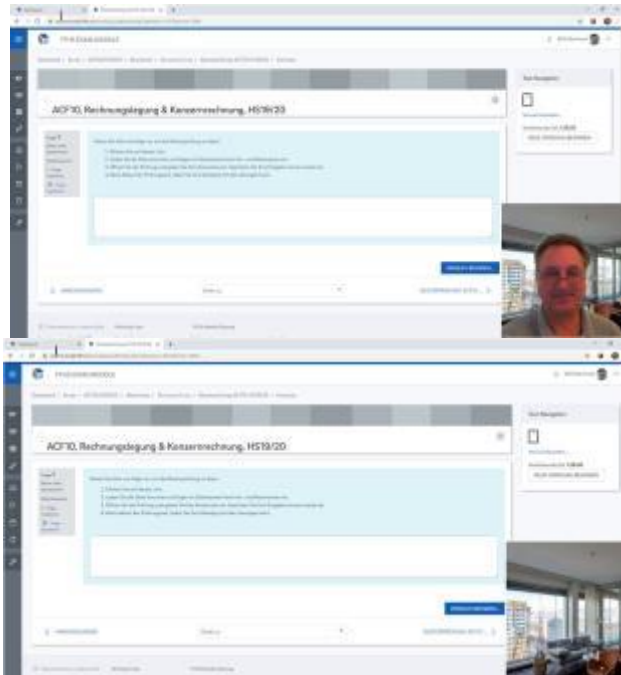


Prüfungsbeispiele FFHS E-Assessment



Geplante Ansätze mit KI-Technologie I

- Die Videoüberprüfung kann mit KI-Technologie automatisiert werden:
- unsupervised anomaly detection (audio & video), face recognition
- machine learning algorithms



tone value histogram

Geplante Ansätze mit KI-Technologie II

- Überwachung von Tests in Echtzeit mit KI-basierten, digitalen Assistenten und Alarmbenachrichtigungen
- Echtzeit-Alarmmeldungen für verdächtige Aktivitäten, z.B. Microsoft Azure



Aktuelle Projekte

- Laboratory for Web Sciences, LWS@FFHS
- Projekt finanziert von Intel COVID-19 Global Technology Response Initiative



Vorteile und Vision des Systems

Vorteile

- Erprobtes, innovatives System, in-house durchführbar
- Bereits existente Erfahrungen, schnell übertragbar
- Selbstbestimmte, getestete Lösung

Vision

- Einbezug von AI im Proctoring
- Flexibles Prüfungswesen für die Zukunft:
Anytime, Anywhere, Anyhow, Aybody



Posten Sie worin die Herausforderungen bei der Durchführung digitalen Unterrichts in der Arbeitsintegration liegen!

Gehen Sie auf [menti.com](https://www.menti.com)

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Link zurück zur Tagung!

Zoom	Meeting-ID	845 9409 8774
Plénière / Plenum	Password	Digital



Studieren,
wann und wo
Sie wollen.



www.ffhs.ch

5. Fragen und Diskussion

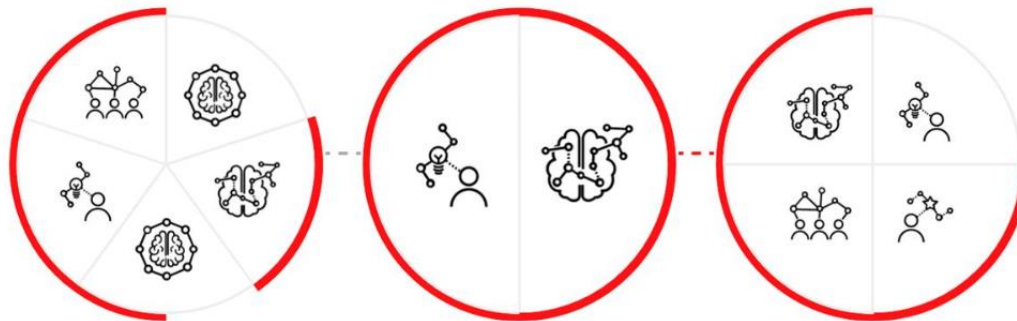
Prof. Dr. Markus Dormann

Direktor Weiterbildung
Departementsleiter E-Didaktik
markus.dormann@ffhs.ch

Visualisierung von Lerninhalten im LMS

Visual Sections

- 1 Stiftungsfundraising 2 Stiftungslandschaft 3 Kursabschluss



Stiftungsfundraising



Willkommen



Worum geht es?



Austauschprozess



20 Jahre Blended Learning an der FFHS

Didaktische Qualitätskriterien

STUDY GUIDANCE

- Orientierung
- Aufgabenspektrum
- Arbeitsaufwand

KOLLABORATIVE ELEMENTE

- Gemeinsame Aufgaben
- Austausch
- Feedbackkultur

INTERAKTIVE ELEMENTE

- Austausch unter Studierenden
- Dozierendenfeedback
- automatisiertes Feedback

ANREIZSYSTEME

- Kompetitive Elemente
- Feedbackstrukturen
- Visualisierungen

VIELFALT DER LERNAKTIVITÄTEN

Aktivierung und Motivierung der Studierenden durch geeignete Tools

FORMALE «EINHEIT»

Gliederung in Lernzyklus

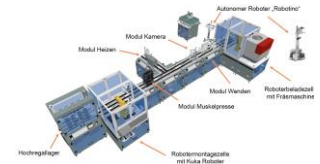
(II) LERN-Modell – Orientierung für

Lernsituationen

Transformation

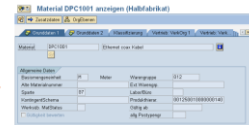
Neugestalten
(neuartig)

Neuartige Handlungssituationen, welche durch Digitale Transformation entstehen, z.B. *Crowdworking mit Hologrammen*



Reorganisieren
(verändernd)

Handlungssituationen, die durch digitale Technologien realisierbar werden, z.B. *virtuelle Produktionsüberwachung.*



Verbesserung

Erweitern
(erweiternd)

Veränderungen von Tätigkeiten aufgrund digitaler Technologien, z.B. *virtuelle Konferenzen.*



Lancieren
(ersetzend)

Ersetzen von analogen durch digitale Tätigkeitsprofile, z.B. *pdfs, Apps statt papierbasierte Dokumentation.*

LERN-Modell (II): Medienperspektive

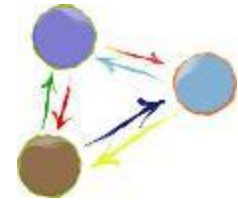
Visualisierung

Digitalen Medien, die geeignet sind, Lehr-/Lernprozesse und im Unterricht erarbeitete Produkte lernunterstützend, visuell darzustellen.



Interaktion

Digitale Medien, die geeignet sind, Lehr-/Lernprozesse im Unterricht interaktiv und lernunterstützend zu gestalten.



Mobilität

Digitale Medien, die geeignet sind, Lehr-/Lernprozesse mobil zu gestalten und somit von ihrer Orts- und Zeitgebundenheit zu lösen.



Kompetitivität

Digitale Medien, die geeignet sind, einen Wettbewerbscharakter in Lehr-/Lernprozessen zu erzeugen, der auf die Lernenden motivierend wirkt.



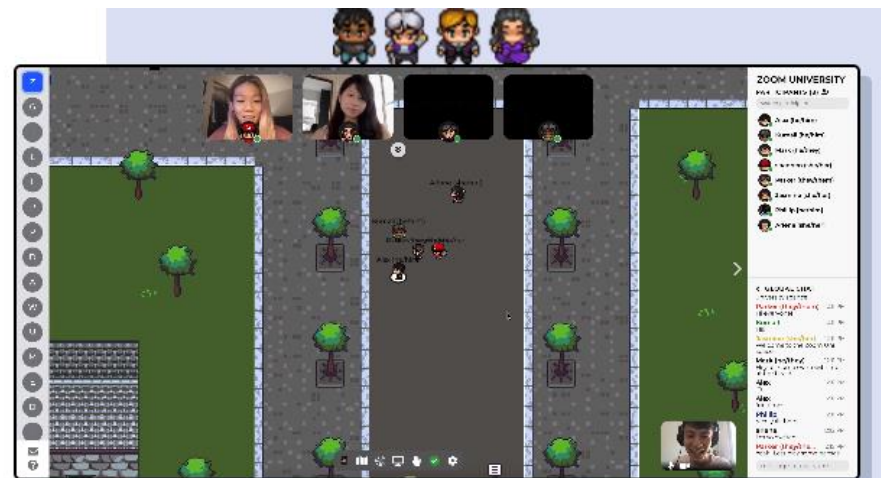
Vorstellungsrunde – Gathertown

Vorstellung

- Befragen Sie mindestens 3 Teilnehmer in einem persönlichen Gespräch in Gathertown und stellen Sie jeweils 2 Fragen zu den auf Padlet angegebenen Bereichen, die Sie am Gegenüber interessieren. Schalten Sie dazu Ihre Kameras ein, sodass sie sich gegenseitig sehen können.

Notieren Sie sich in Stichpunkten, wie das Erleben des virtuellen Raums ist.

<https://bit.ly/3sllvwD>
Passwort: Ausbildung2100



Exkurs: Einige Impressionen



Wir sehen einen Prozess...

LEARNING

1.0

What's your vision of learning? Monastic study within Medieval Europe? Or the enforced grind of a 19th Century English boarding school? Or maybe you're thinking of the soulless churn of 20th Century mass education. I hope you're thinking of something more personalized. How personalized is the training in your workplace? Sadly, most workplaces inherit the dysfunctional formality of old-style methods or resort to half-hearted attempts to repackage information using generic office technologies. Or perhaps your workplace exemplifies the worst of both worlds ...

LEARNING

2.0

What's the new vision of learning? More importantly, how does vision affect the way you learn? Most new techniques tap into people's innate ability to understand by picturing and mapping complicated ideas. More ideas can be juggled in the mind. Making connections between ideas is easier. Lessons stick in memory better. As importantly, more learning revolves around dialogue groups, networks, and communities. Learning is no longer just an isolated and passive absorption of information. It is also a rich co-creation and application of new knowledge.

BULLET-POINT PRESENTATIONS

Presenters read-out lists from the screen. Text snippets are disjointed. The audience's ability to cognitively absorb ideas is limited. The result is usually boredom. Time to check the BlackBerry.

INFO-DUMP

Large quantities of text are foisted upon learners. Most of it goes unread and valuable lessons get lost in the pile.

RECYCLED E-LEARNING

Instead of tailoring content to the medium, old text documents are simply repackaged for online consumption. Too much time is spent reading long documents on computer screens. There is little interaction and engagement.

VISUAL EXPLANATION

Ideas are explained visually with information graphics, photographs, and other visual aids. Visualization forces the speaker to orchestrate words and visuals into clear and coherent messages and frameworks. Complicated ideas are better understood, easier to fit together, and more memorable.

SOCIAL NETWORKS & COMMUNITIES

Web-based social-networking technologies (blogs, wikis, and such) put large quantities of facts at people's fingertips and facilitate online conversations. Communities of practice meet online and face-to-face in order to steward a body of practical knowledge, teaching new members in the process. New ideas and perspectives are brought to bear on problems.

GRAPHIC FACILITATION

Facilitators help people visualize their ideas on-the-fly and teach them visualization skills. This helps them see patterns and craft ideas into coherent stories. People find it easier to come to agreement and understand complex concepts because are less likely to quibble about the meaning of vague terms and jargon.

IMPRACTICALITY

Lessons learned are abstract and difficult to apply. The relevance is not always obvious.

MEANINGLESS EXERCISES

Many traditional group exercises are contrived and have only a superficial relevance to work activities. Employees often think of these exercises as phoney and just go through the motions. Time to check that BlackBerry again.

AIMLESS SESSIONS

Instead of talking past each other, there is no focus. People are expected to learn from each other but usually get few substantive lessons.

MEMORIZE & REGURGITATE

Rote studying does little to stimulate the imagination and lessons are quickly forgotten.

MEMORIZE & REGURGITATE

employees learn the ropes with risky and unproductive coping. Many wheels are reinvented and past experiences ignored.

SOCIAL NETWORKS & COMMUNITIES

CARD-BASED DIALOGUE

Dialogue sessions have greater focus (without overbearing facilitation) when people focus on realistic problems. New card methods expose learners to new ideas and research during such dialogue sessions. The cards help groups brainstorm, diagnose problems, and set a course of action. They also provide an opportunity for individuals to reflect on ideas after the session is over and to teach others.

MULTIMEDIA E-LEARNING & SIMULATORS

Multimedia e-learning courses offer interaction and intellectual stimulation, allowing people to learn from their desktops. Immersive simulators encourage people to imagine themselves within real-world scenarios as they solve problems.

ACTION RESEARCH & LEARNING

Action research involves bringing a diverse group of experts and practitioners together to jointly inquire about a subject of interest. The advice that results tends to be more relevant to daily work. Action learning techniques actively put course lessons to work. These methods prevent course lessons from languishing on the shelf, unused.

LEARNING 1.0

What's your vision of learning? Monastic study within Medieval Europe? Or the enforced grind of a 19th Century English boarding school? Or maybe you're thinking of the soulless churn of 20th Century mass education. I hope you're thinking of something more personalized. How personalized is the training in your workplace? Sadly, most workplaces inherit the dysfunctional formality of old-style methods or resort to half-hearted attempts to repackage information using generic office technologies. Or perhaps your workplace exemplifies the worst of both worlds ...

LEARNING 2.0

What's the new vision of learning? More importantly, how does vision affect the way you learn? Most new techniques tap into people's innate ability to understand by picturing and mapping complicated ideas. More ideas can be juggled in the mind. Making connections between ideas is easier. Lessons stick in memory better. As importantly, more learning revolves around dialogue groups, networks, and communities. Learning is no longer just an isolated and passive absorption of information. It is also a rich co-creation and application of new knowledge.

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Theorie der Nachfrage (Quelle: www.tutor2u.net/übersetzt durch RM)

Multiple-choice Übung

Kreuzen Sie die zutreffende Antwort an.

1 / 10

alle Fragen anzeigen

Der Preis des Gutes Y steigt um 20 %. Der Konsum des Gutes X steigt deswegen um 8 %. Dies ist ein Beispiel

A. der Verringerung des Angebots

B. der höheren Nachfrage nach allen Gütern und Diensten

C. des Einkommenseffekts

D. des Substitutionseffekts

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MEANINGLESS EXERCISES
Many traditional group exercises are contrived and have only a superficial relevance to work activities. Employees often think of these exercises as fluff and just go through the motions. Time to check that BlackBerry again.



AIMLESS CHAT SESSIONS
Instead of deep debate, learners talk past each other and go off on pointless tangents. There is no focus. People are expected to learn from each other but usually get few substantive lessons.

SINK-OR-SWIM ON-THE-JOB TRAINING
Left to themselves, veterans have little time and inclination to train successors. The pressure to fill vacant positions means unprepared employees learn the ropes with risk and unproductive coping. Many wheels are reinvented and past experiences ignored.

LEARNING IS EARNING in the national learning economy

- unbounded resources**: Access to information and expertise is no longer limited by geography or time.
- digital natives**: Born in an age that uses digital devices, students are growing up with the tools and skills to engage in the learning process.
- personalized experiences**: Adaptive learning experiences increase the rate of success and satisfaction in life.
- actionable feedback**: Data analytics measure student performance and provide personalized feedback.
- dynamic reputations**: Digital tools build the reputations of workers, learners, and citizens.
- collaborative tools**: Social media and other tools enable learners to connect and share knowledge.
- solutions networks**: Collaborative learning leads to innovative solutions to problems at work and in life.
- algorithmic matching**: Digital systems connect people, tools, and resources to the right tasks and projects.
- human-machine symbiosis**: Learning offers the most powerful support for human-machine symbiosis, allowing people to learn from their peers, machines, and communities.
- decided brain**: A digital brain is a hybrid of human and machine intelligence, capable of learning and decision-making.
- coordination platforms**: Digital tools enable learners to coordinate their efforts and share resources.
- learning commons**: Open access to digital resources and expertise is no longer limited by geography or time.
- maker mindset**: Learning is a process of making, not just consuming. It involves creating and sharing knowledge.
- continuous learning flows**: Learning is a process of continuous learning, not just a one-time event.
- digital-physical blends**: Extended intelligence links digital and physical worlds, creating a new learning environment.
- networks**: Networks, networks, and networks are the key to learning in the 21st century.
- health-care redesign**: Health-care redesign is a key to learning in the 21st century.
- college redesign**: College redesign is a key to learning in the 21st century.
- openness**: Openness is a key to learning in the 21st century.
- social media**: Social media is a key to learning in the 21st century.
- mobile devices**: Mobile devices are a key to learning in the 21st century.
- cloud computing**: Cloud computing is a key to learning in the 21st century.
- big data**: Big data is a key to learning in the 21st century.
- artificial intelligence**: Artificial intelligence is a key to learning in the 21st century.
- robotics**: Robotics is a key to learning in the 21st century.
- 3D printing**: 3D printing is a key to learning in the 21st century.
- virtual reality**: Virtual reality is a key to learning in the 21st century.
- augmented reality**: Augmented reality is a key to learning in the 21st century.
- blockchain**: Blockchain is a key to learning in the 21st century.
- cryptocurrency**: Cryptocurrency is a key to learning in the 21st century.
- cybersecurity**: Cybersecurity is a key to learning in the 21st century.
- quantum computing**: Quantum computing is a key to learning in the 21st century.
- nanotechnology**: Nanotechnology is a key to learning in the 21st century.
- biotechnology**: Biotechnology is a key to learning in the 21st century.
- space exploration**: Space exploration is a key to learning in the 21st century.
- climate change**: Climate change is a key to learning in the 21st century.
- globalization**: Globalization is a key to learning in the 21st century.
- digital divide**: Digital divide is a key to learning in the 21st century.
- digital literacy**: Digital literacy is a key to learning in the 21st century.
- digital citizenship**: Digital citizenship is a key to learning in the 21st century.
- digital identity**: Digital identity is a key to learning in the 21st century.
- digital footprint**: Digital footprint is a key to learning in the 21st century.
- digital privacy**: Digital privacy is a key to learning in the 21st century.
- digital security**: Digital security is a key to learning in the 21st century.
- digital safety**: Digital safety is a key to learning in the 21st century.
- digital well-being**: Digital well-being is a key to learning in the 21st century.
- digital health**: Digital health is a key to learning in the 21st century.
- digital education**: Digital education is a key to learning in the 21st century.
- digital workforce**: Digital workforce is a key to learning in the 21st century.
- digital economy**: Digital economy is a key to learning in the 21st century.
- digital society**: Digital society is a key to learning in the 21st century.
- digital culture**: Digital culture is a key to learning in the 21st century.
- digital art**: Digital art is a key to learning in the 21st century.
- digital music**: Digital music is a key to learning in the 21st century.
- digital film**: Digital film is a key to learning in the 21st century.
- digital gaming**: Digital gaming is a key to learning in the 21st century.
- digital sports**: Digital sports is a key to learning in the 21st century.
- digital entertainment**: Digital entertainment is a key to learning in the 21st century.
- digital communication**: Digital communication is a key to learning in the 21st century.
- digital collaboration**: Digital collaboration is a key to learning in the 21st century.
- digital innovation**: Digital innovation is a key to learning in the 21st century.
- digital leadership**: Digital leadership is a key to learning in the 21st century.
- digital management**: Digital management is a key to learning in the 21st century.
- digital marketing**: Digital marketing is a key to learning in the 21st century.
- digital sales**: Digital sales is a key to learning in the 21st century.
- digital customer service**: Digital customer service is a key to learning in the 21st century.
- digital operations**: Digital operations is a key to learning in the 21st century.
- digital supply chain**: Digital supply chain is a key to learning in the 21st century.
- digital logistics**: Digital logistics is a key to learning in the 21st century.
- digital manufacturing**: Digital manufacturing is a key to learning in the 21st century.
- digital agriculture**: Digital agriculture is a key to learning in the 21st century.
- digital energy**: Digital energy is a key to learning in the 21st century.
- digital transportation**: Digital transportation is a key to learning in the 21st century.
- digital infrastructure**: Digital infrastructure is a key to learning in the 21st century.
- digital urban planning**: Digital urban planning is a key to learning in the 21st century.
- digital architecture**: Digital architecture is a key to learning in the 21st century.
- digital engineering**: Digital engineering is a key to learning in the 21st century.
- digital design**: Digital design is a key to learning in the 21st century.
- digital construction**: Digital construction is a key to learning in the 21st century.
- digital maintenance**: Digital maintenance is a key to learning in the 21st century.
- digital repair**: Digital repair is a key to learning in the 21st century.
- digital replacement**: Digital replacement is a key to learning in the 21st century.
- digital disposal**: Digital disposal is a key to learning in the 21st century.
- digital recycling**: Digital recycling is a key to learning in the 21st century.
- digital sustainability**: Digital sustainability is a key to learning in the 21st century.
- digital ethics**: Digital ethics is a key to learning in the 21st century.
- digital law**: Digital law is a key to learning in the 21st century.
- digital politics**: Digital politics is a key to learning in the 21st century.
- digital religion**: Digital religion is a key to learning in the 21st century.
- digital philosophy**: Digital philosophy is a key to learning in the 21st century.
- digital psychology**: Digital psychology is a key to learning in the 21st century.
- digital sociology**: Digital sociology is a key to learning in the 21st century.
- digital anthropology**: Digital anthropology is a key to learning in the 21st century.
- digital history**: Digital history is a key to learning in the 21st century.
- digital geography**: Digital geography is a key to learning in the 21st century.
- digital environmental science**: Digital environmental science is a key to learning in the 21st century.
- digital astronomy**: Digital astronomy is a key to learning in the 21st century.
- digital physics**: Digital physics is a key to learning in the 21st century.
- digital chemistry**: Digital chemistry is a key to learning in the 21st century.
- digital biology**: Digital biology is a key to learning in the 21st century.
- digital medicine**: Digital medicine is a key to learning in the 21st century.
- digital dentistry**: Digital dentistry is a key to learning in the 21st century.
- digital pharmacy**: Digital pharmacy is a key to learning in the 21st century.
- digital nursing**: Digital nursing is a key to learning in the 21st century.
- digital health care**: Digital health care is a key to learning in the 21st century.
- digital public health**: Digital public health is a key to learning in the 21st century.
- digital epidemiology**: Digital epidemiology is a key to learning in the 21st century.
- digital infectious disease**: Digital infectious disease is a key to learning in the 21st century.
- digital immunology**: Digital immunology is a key to learning in the 21st century.
- digital genetics**: Digital genetics is a key to learning in the 21st century.
- digital genomics**: Digital genomics is a key to learning in the 21st century.
- digital proteomics**: Digital proteomics is a key to learning in the 21st century.
- digital metabolomics**: Digital metabolomics is a key to learning in the 21st century.
- digital systems biology**: Digital systems biology is a key to learning in the 21st century.
- digital synthetic biology**: Digital synthetic biology is a key to learning in the 21st century.
- digital bioinformatics**: Digital bioinformatics is a key to learning in the 21st century.
- digital computational biology**: Digital computational biology is a key to learning in the 21st century.
- digital biotechnology**: Digital biotechnology is a key to learning in the 21st century.
- digital nanotechnology**: Digital nanotechnology is a key to learning in the 21st century.
- digital quantum technology**: Digital quantum technology is a key to learning in the 21st century.
- digital space technology**: Digital space technology is a key to learning in the 21st century.
- digital defense technology**: Digital defense technology is a key to learning in the 21st century.
- digital intelligence technology**: Digital intelligence technology is a key to learning in the 21st century.
- digital cybersecurity technology**: Digital cybersecurity technology is a key to learning in the 21st century.
- digital artificial intelligence technology**: Digital artificial intelligence technology is a key to learning in the 21st century.
- digital robotics technology**: Digital robotics technology is a key to learning in the 21st century.
- digital 3D printing technology**: Digital 3D printing technology is a key to learning in the 21st century.
- digital virtual reality technology**: Digital virtual reality technology is a key to learning in the 21st century.
- digital augmented reality technology**: Digital augmented reality technology is a key to learning in the 21st century.
- digital blockchain technology**: Digital blockchain technology is a key to learning in the 21st century.
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opportunity for individuals to reflect on issues after the session is over and to teach others. Multimedia e-learning courses offer interaction and intellectual stimulation, allowing people to learn from their

shell, crushed.

www.iff.org/learningisearning/

...von Distribution zu Kollaboration

E-Learning 1.0

CONTENT

- Computer Based Trainings
- Online Courses
- Knowing Facts
- Rote Learning

- One way Learning
- Receptive Postion



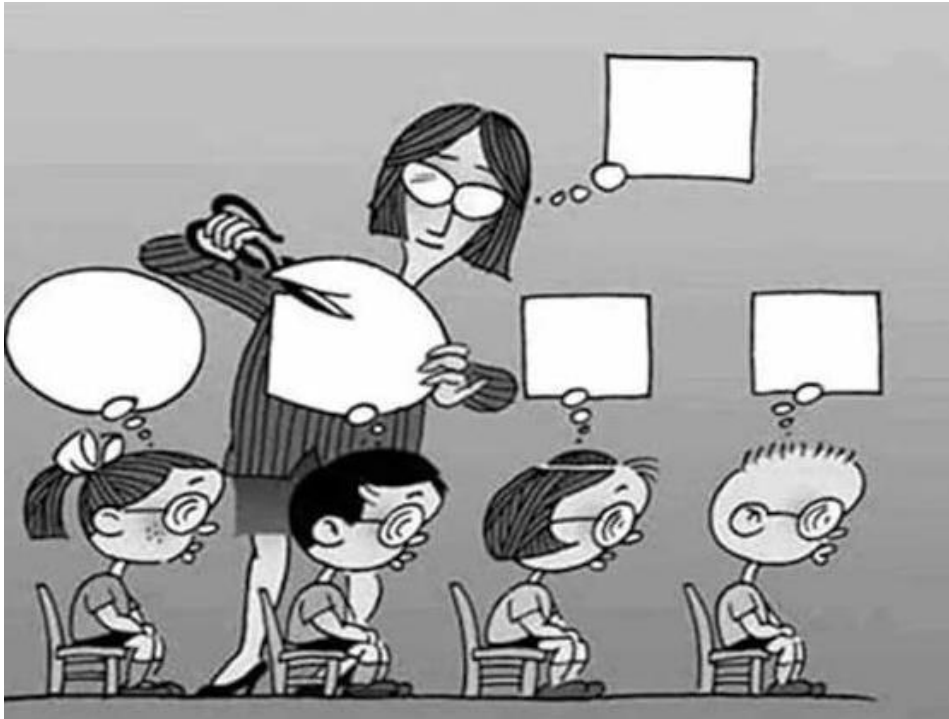
E-Learning 2.0

PEOPLE

- Sharing Information and Knowledge
- Workplace Learning
- Defining Knowledge
- Conceptual Learning

- Collaborative Learning, Discussing
- Producing Knowledge through Products

Distribution – Kopie von Objekten und Werten



Bezug auf
Objekte und Werte

