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01.01.2026 > 31.12.2028



Digiset
Digitally Sustainable
European Teacher Academy

Impact of AI on teaching strategy

Practical implementations at TU Graz

Adj.Prof. PhD. Martin Ebner, TU Graz

TAM CONFERENCE ON

“ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION”

22.5.2026 Seifullin University, Astana, Kazakhstan



University for
Continuing
Education Krens



UNIVERSITÀ
DI SIENA
1240

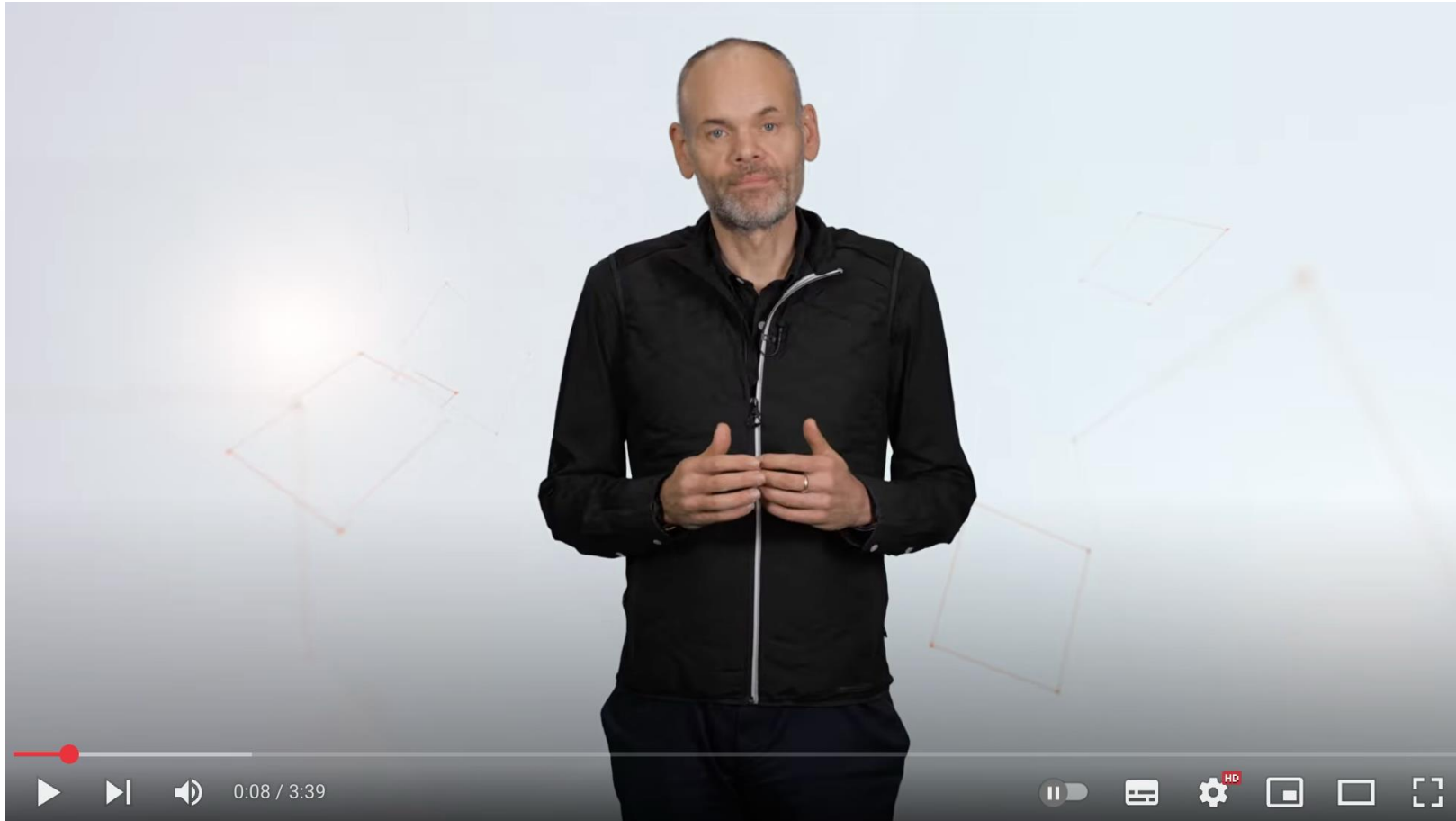


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German version : <https://youtu.be/wW7s8RmVuAw?si=18mFO2D3PaxeViP3>

English version : <https://youtu.be/Yjm6cGn0zAc?si=10EK6v9BUkEB8ri3>

Why bother with AI technologies?

AI in everyday learning

... Natural language processing (DeepL, ...)

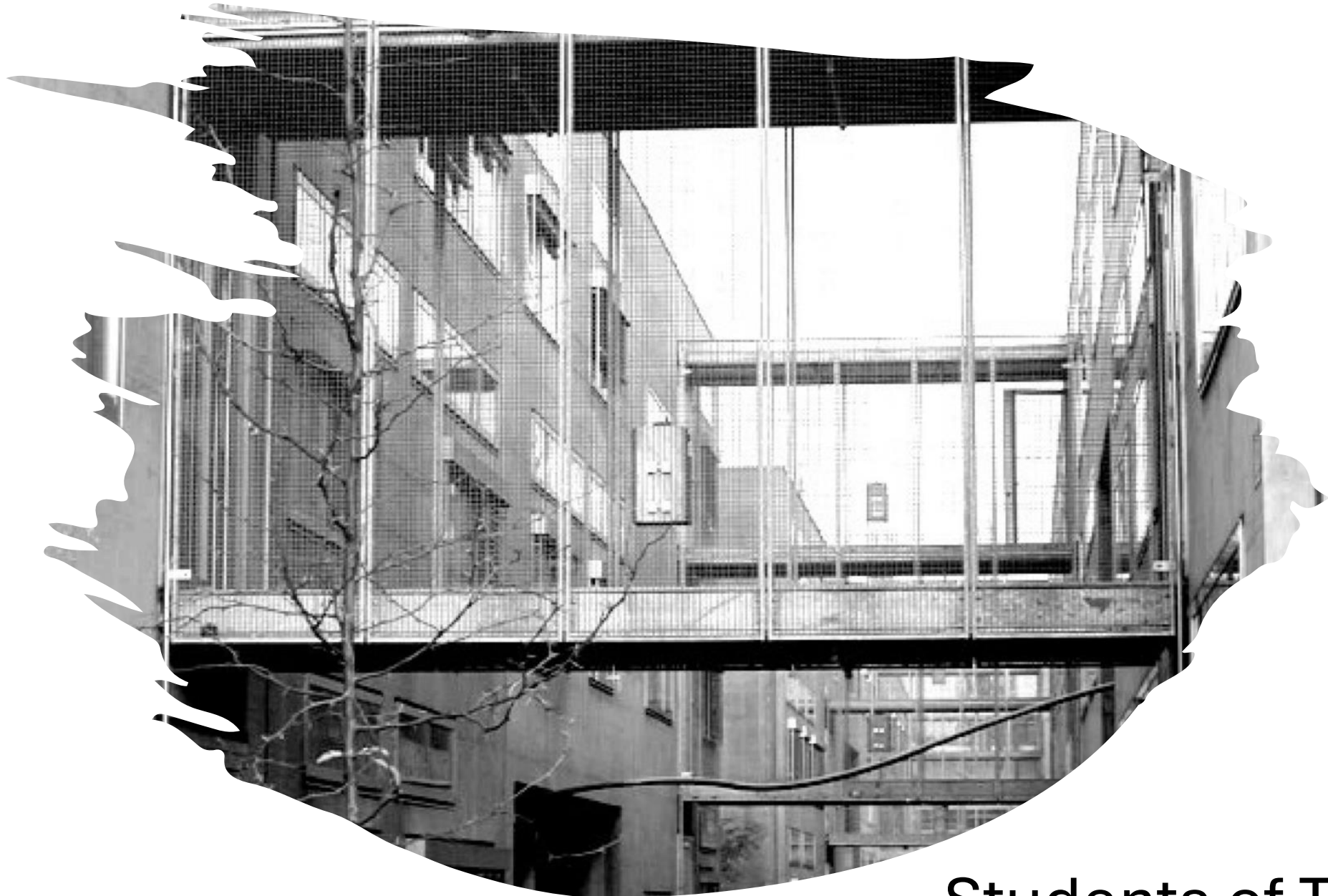
... Speech recognition (Text-to-speech, ...)

... Predictive models (Predictive analytics, ...)

... Image recognition (Handwritten text, ...)

... Recommendations (Recommendations, ...)

... Generative AI (ChatGPT & Co. ...)

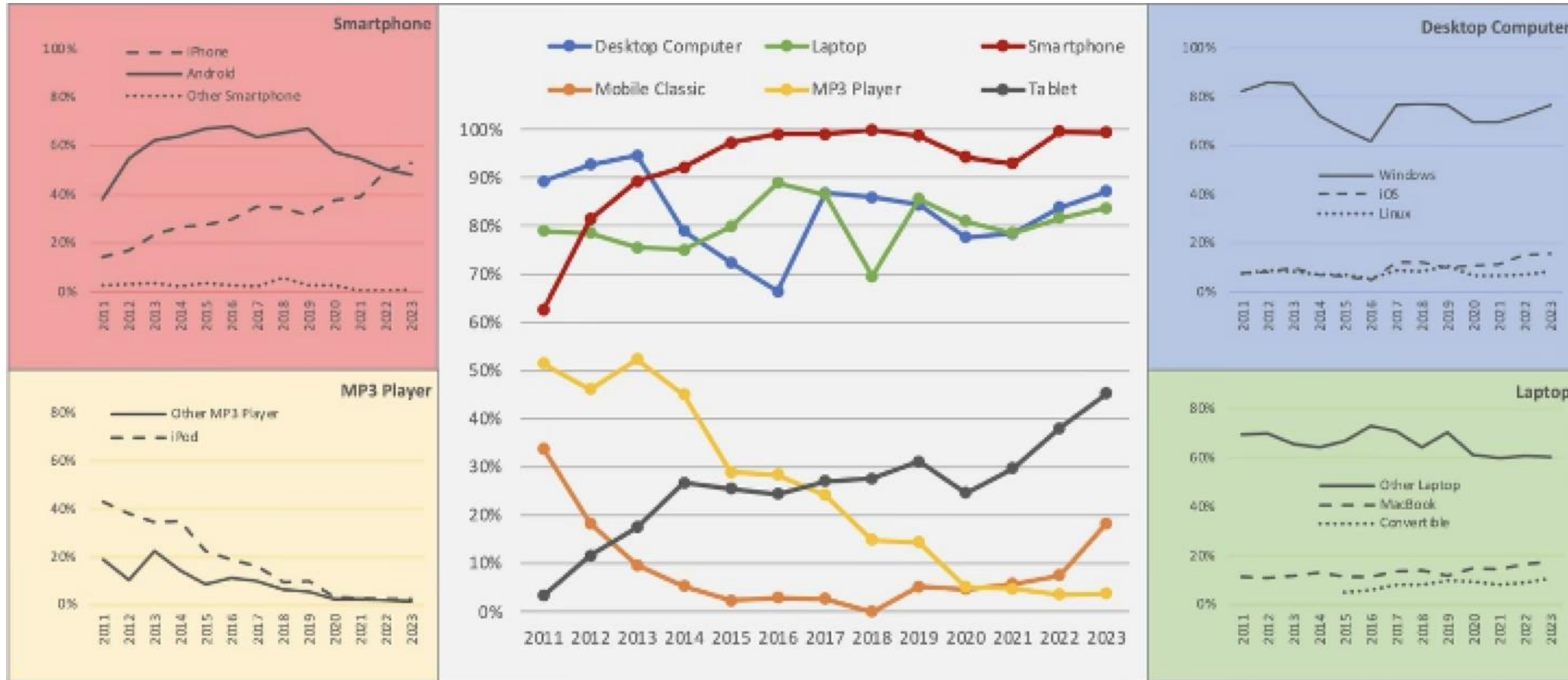


Students of Today

17-year-old Long-term study (n=14,742)

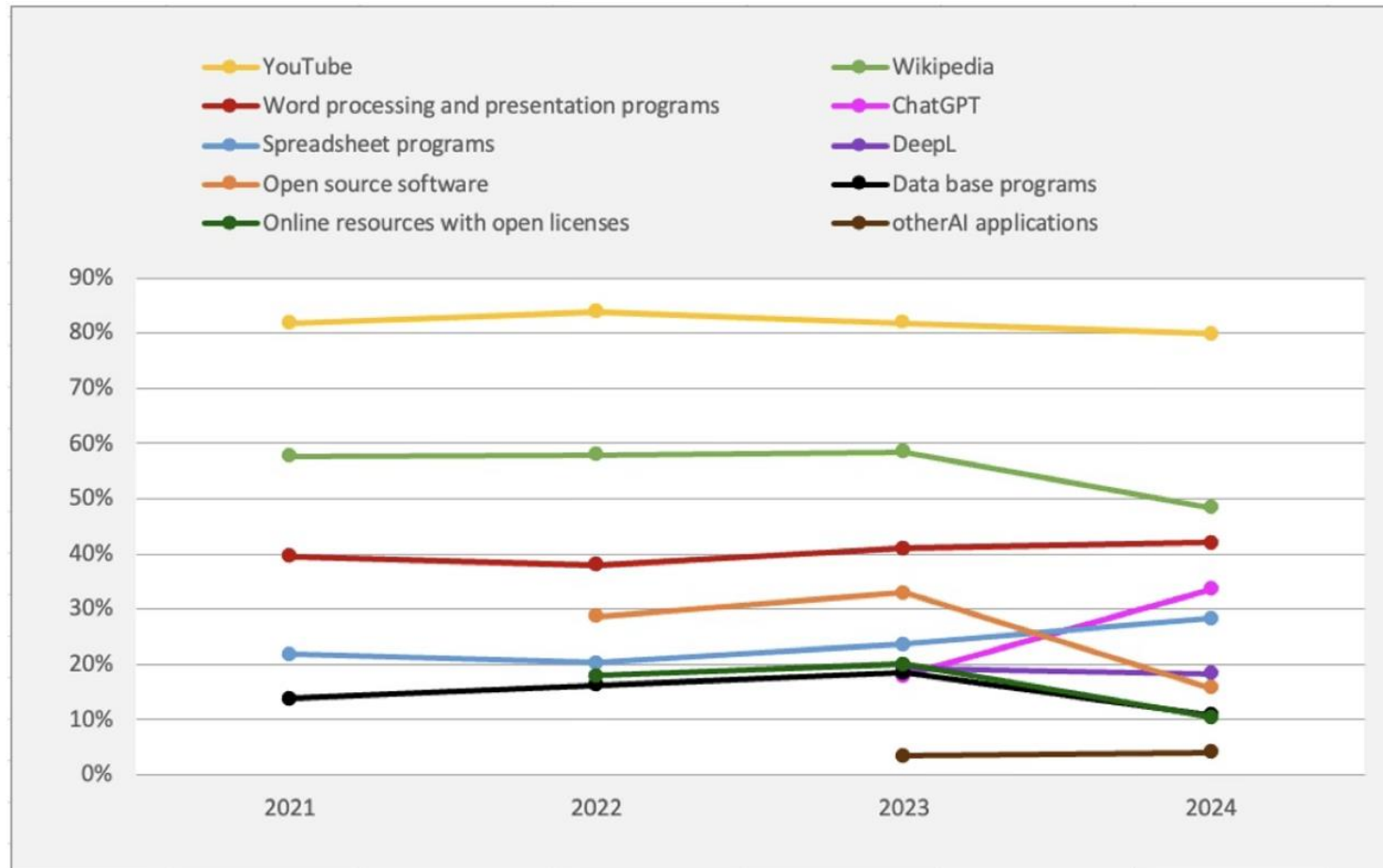
- WS 2007/2008 n=578
- WS 2008/2009 n=821
- WS 2009/2010 n=757
- WS 2010/2011 n=702
- WS 2011/2012 n=632
- WS 2012/2013 n=715
- WS 2013/2014 n=789
- WS 2014/2015 n=968
- WS 2015/2016 n=889
- WS 2016/2017 n=944
- WS 2017/2018 n=872
- WS 2018/2019 n =898
- WS 2019/2020 n=824
- WS 2020/2021 n=955
- WS 2021/2022 n=1207
- WS 2022/2023 n=1089
- WS 2023/2024 n=1102

What devices do you own?



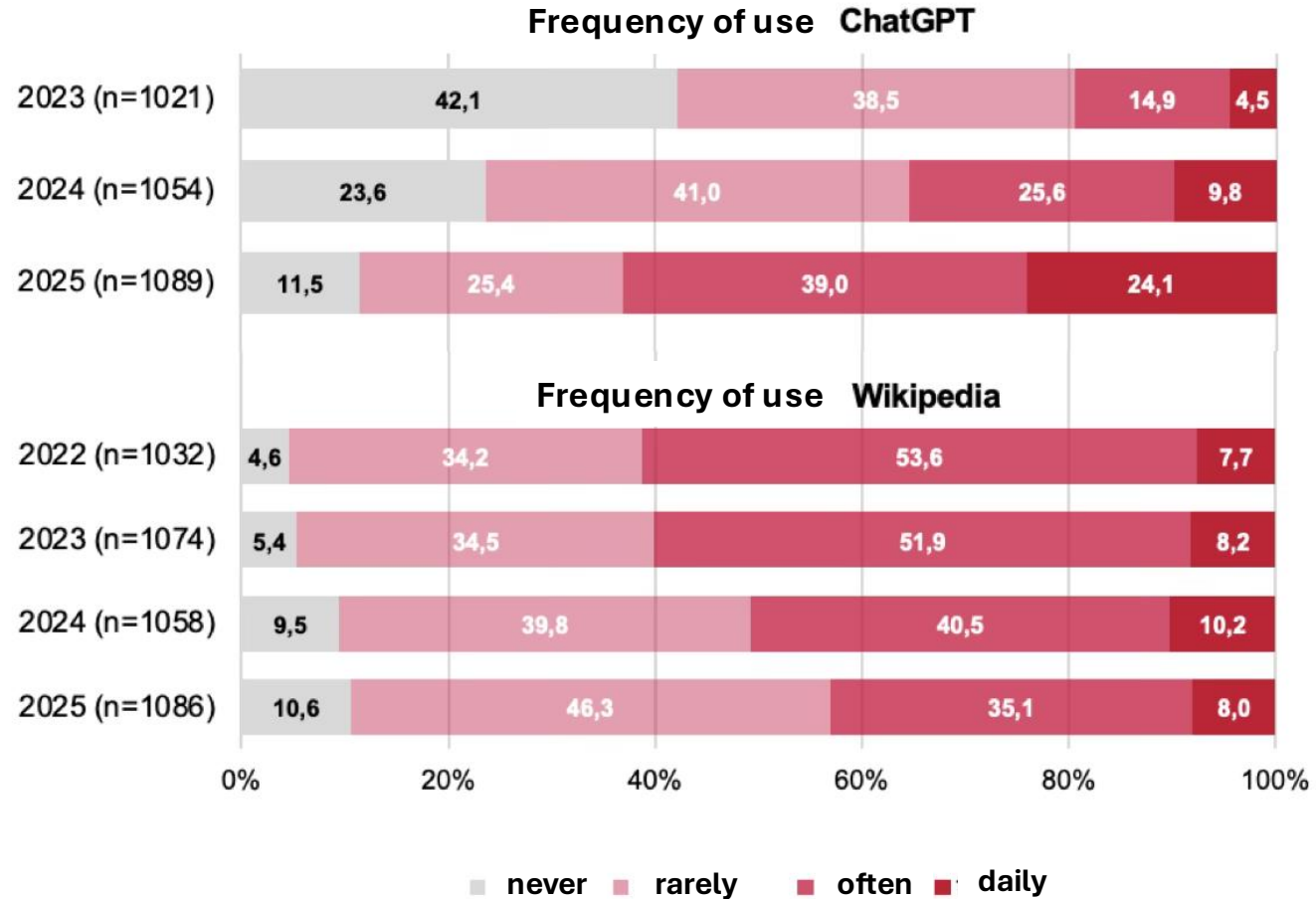
Nagler, W., Mair, B., Ebner, M., Edelsbrunner, S. & Schön, S. (2024). WhatsApp's Reign and Email's Consistency: A Longitudinal Study of Communication Preferences of Study Beginners at TU Graz (2011-2023). In T. Bastiaens (Ed.), Proceedings of EdMedia + Innovate Learning (pp. 73-82). Brussels, Belgium: Association for the Advancement of Computing in Education (AACE). Retrieved July 22, 2024 from <https://www.learntechlib.org/primary/p/224506/>

AI applications for learning?



Nagler, W., Mair, B., Ebner, M., & Schön, S. (2025). Inspired by generative AI, Ignoring Open Knowledge? Findings from a Longitudinal Study on Digital Equipment and Activities of Study Beginners at TU Graz (2011–2024). EdMedia + Innovate Learning 2025 Conference.

ChatGPT vs. Wikipedia?



Nagler, W., Mair, B., Ebner, M., & Schön, S. (2026) Survey conducted at the welcome days at TU Graz 2025

Basic AI skills



Wissenschaftliche Einordnung:

Rechtswissenschaften (505)

Kursstart: 10. März 2026

Der EU AI Act im Hochschulkontext: Grundlagen für Lehre, Forschung und Verwaltung

Universität Wien, Hochschule Campus Wien

Univ.-Prof. Dr. Nikolaus Forgó


 Dieser Kurs ist Teil einer MOOC-Serie: [KI-MOOCs](#)

Anmelden & Einschreiben

 Umfang: 10 Lektionen

 Aufwand: 2 Stunden/Lektion

 Teilnehmende aktuell: 382

 Lizenz: CC BY-NC 4.0

 Kursstart: 10. März 2026

 Kursende: -

<https://imoox.at/course/AI-ACT> (verfügbar seit 10.3.26)

Basic AI skills

DE

Zukünftiger Kurs

Informatik - Wirtschaftswissenschaften - Erziehungswissenschaften - Medienwissenschaften



Generative KI: verstehen, gestalten, verantworten

Universität Graz, Technische Universität Graz

Kathrin Otrrel-Cass, Martin Ebner, Benedikt Brünner, Dominik Freinhofer, Michael Reicho



Über

Inhalt

Bewertung



Dauer

6 Lektionen



Einheiten

2 Stunden/Lektion



Lizenz

CC BY 4.0



Kursteilnehmer:innen

74



Verfügbarkeit

Unbegrenzt



Startdatum

29. September 2025



Kosten

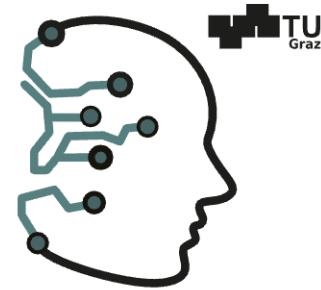
€ 0.00

<https://imoox.at/course/genKI> (verfügbar seit 1.10.25)

AI Teaching and Applications at Graz University of Technology

FLAAIT

**Future Learning,
Analytics &
AI for Teaching**



About us

FLAAIT is a group of researchers, developers, and analysts from [Graz University of Technology, Austria](https://www.tugraz.at).

We are part of the [Educational Technology](#) service department, whose motto is "We care about eEducation". We support high-quality, location-independent teaching through innovative digital solutions and promote open, sustainable education for students.

Our [EdTech Research Community Graz](#) is dedicated to advancing the field of education through innovative research and practical applications of educational technology (EdTech).

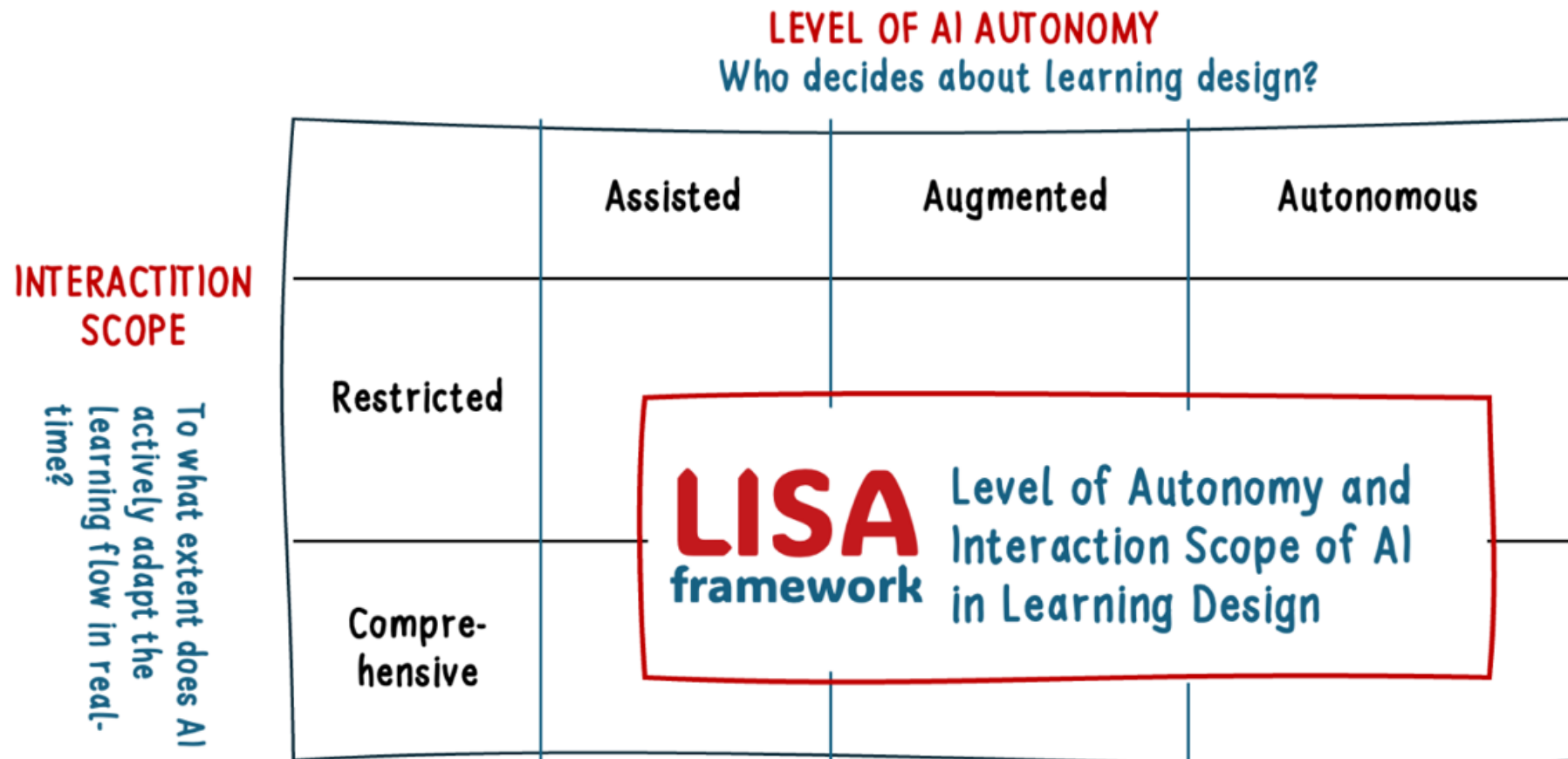
Contact us at flaa.it@tugraz.at

<https://flaa.it/>

<https://www.tugraz.at/oe/lehr-und-lerntechnologien/angebote-und-services/future-learning-analytics-ai-for-teaching>

Development of an Exploratory Conceptual Framework

LISA framework



Schön, S., Brünner, B. Ebner, M. (2026). Introducing the LISA Framework: Level and Integration Scope of Artificial Intelligence in Learning Design. submitted, under review

Levels of AI Autonomy

Term	AI-Assisted Learning Design	AI-Augmented Learning Design	AI-Autonomous Learning Design
Core Definition	The AI provides supportive services (data aggregation, idea suggestions, draft creation, quality checks); the human designer remains the sole decision-maker.	The AI expands the design process by delivering adaptive pathways, generative content, or predictive analytics; control becomes difficult or impossible to retain fully.	The AI takes over the entire instructional-design workflow (needs analysis, content creation, sequencing, assessment, optimization) without active human intervention.
Primary Decision-Maker	Human (instructional/learning designer)	Shared control (human defines parameters, AI operates within them)	AI (only governance/compliance review)
How AI Operates	Helps, potentially reduces feedback loops with third parties.	Builds dynamic learning structures, creates personalized media, supplies data-driven predictions.	Fully automated, self-learning systems that produce content from analytics, web-mining, and generative models.

Categories of Interaction

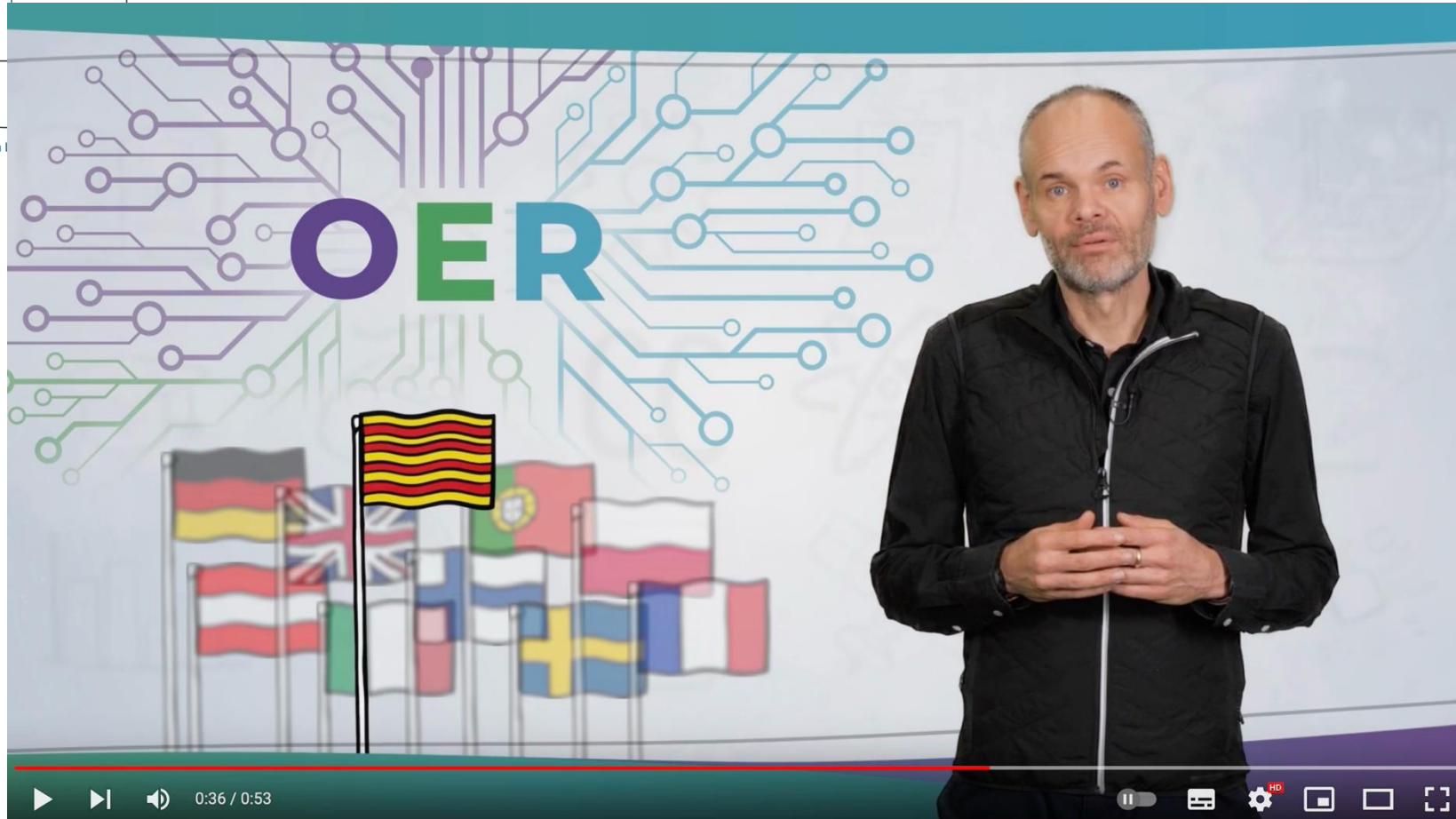
Term	Restricted Interaction	Comprehensive Interaction
Core Definition	AI operates as a static tool; executes tasks based on fixed rules without altering the learning trajectory in real-time.	AI operates as an adaptive agent; dynamically adapts content, sequence, and feedback based on real-time learner data and context.
Form of Interaction	Linear and discrete. The AI provides output and waits for the next command. No continuous adaptation loop.	Non-linear and iterative. The AI continuously monitors and adjusts the flow, anticipating needs and modifying delivery instantly.
Agentic Capability	Low/None. Follows a pre-defined script regardless of learner performance or state.	High. Actively perceives context, plans actions, and reshapes the learning path based on immediate feedback.

Practical examples of Graz University of Technology

	Assisted	Augmented	Autonomous
Restricted			
Comprehensive			

*Level of Autonomy and Interaction Scope of AI in

Multilingual AI avatar



https://youtu.be/KpEWw5zz--c?si=2aWJe2J9L3c4zt_8

Trailer of the MOOC „Open Educational Resources in Higher Education“

<https://imoox.at/course/OERinHE>

Interaction Scope
To what extent does AI actively adapt the learning flow in real-time?

	Assisted	Augmented	Autonomous
Restricted			
Comprehensive			

*Level of Autonomy and Interaction Scope of AI in Learning

AI-based MOOC



	Assisted	Augmented	Autonomous
Restricted			
Comprehensive			

*Level of Autonomy and Interaction Scope of AI in Learning Design

Echo-Quiz

Nennen Sie ein SDG

Antworten Fragen-Kontext

3

Akzeptiere bereits nur den Namen (englisch oder deutsch) und gib mir im Feedback die Nummer sowie den ganzen Namen in beiden Sprachen. Bewerte streng.

Bildung

SDG 4: Qualität Bildung / Quality Education



Hochwertige Bildung

SDG 4: Hochwertige Bildung / Quality Education



SDG 4: Hochwertige Bildung

SDG 4: Hochwertige Bildung (Quality Education)



Brünner, B., Ebner, M. (2026). Enhancing Synchronous Collaborative Learning with AI-Supported Audience Response Systems: The EchoQuiz Approach. In: Auer, M.E., Toth, P. (eds) Innovation via Collaborative Learning in Engineering Education. ICL 2025. Lecture Notes in Networks and Systems, vol 1847. Springer, Cham. https://doi.org/10.1007/978-3-032-18885-4_2

	Assisted	Augmented	Autonomous
Restricted			
Comprehensive			

*Level of Autonomy and Interaction Scope of AI in Learning Design

AI-generated video path



2a. Thema 1: Wahrscheinlichkeit
iMooX at

Wie f... on

WAHRSCHEINLICHKEIT

1:23 / 1:23

Weitere Videos

Zur Eingabe

Alle Video-Pfad-Eingaben löschen und neu anfangen [Logout from story: genkimoooc](#) for user Sieg_i

	Assisted	Augmented	Autonomous
Restricted			
Comprehensive			

*Level of Autonomy and Interaction Scope of AI in Learning Design

Informatik-Fit (2024/25)
Technische Universität Graz
Benedikt Brünner

0% abgeschlossen

- Kurs Playlist
- Kursbeschreibung und Trailer
- Forum
- Ankündigungen
- Lektion 1** »
Einführung
- Lektion 2
Grundlagen
- Lektion 3
Algorithmen

Chatbot

Über iMooX Partner:innen ▾ Alle Kurse



Transkript zum Video

✕

Willkommen beim InformatikFit Chatbot!
Wie kann ich Ihnen helfen?

Vergleiche analoge und digitale Daten

Was ist ein Transistor?

Erstelle mir 3 Fragen zur von Neumann Architektur

Was für eine Farbe ist #01FFFF?

➤

[Feedback senden](#)
[Reset Chat](#)

Brünner, B., Ebner, M. (2025). InfoFit and Beyond: AI Chatbots as EdTech Tools for Self-Regulated Learning in MOOCs. In: Smith, B.K., Borge, M. (eds) Learning and Collaboration Technologies. HCII 2025. Lecture Notes in Computer Science, vol 15807. Springer, Cham. https://doi.org/10.1007/978-3-031-93567-1_4

	Assisted	Augmented	Autonomous
Restricted			
Comprehensive			

*Level of Autonomy and Interaction Scope of AI in Learning

Production of educational podcasts

Track:

Voice

Select Voice

Christian Plasa

Listen to Voice

0:00 / 0:01

Questions to generate your Episode

Was ist ein Ziel, das du dir zuletzt selbst gesetzt hast?

Your answer here

Hast du ein Ziel, das du in den nächsten drei Jahren erreichen willst?

Your answer here

Submit and create Episode

Ebner, M. & Brünner, B. (2025). Workshop for Special Interest Group Emerging Technologies for Learning and Teaching: Exploring Educational Podcasts with AI. In T. Bastiaens (Ed.), Proceedings of EdMedia + Innovate Learning (pp. 1375-1376). Barcelona, Spain: Association for the Advancement of Computing in Education (AACE). Retrieved June 4, 2025 from <https://www.learntechlib.org/primary/p/226347/>

	Assisted	Augmented	Autonomous
Restricted			
Comprehensive			

*Level of Autonomy and Interaction Scope of AI in Learning Design

Prompting School

 prompting.schule
[Anmelden](#)




MEISTERN SIE PROMPT-ENGINEERING

Erzielen Sie bessere Ergebnisse mit KI-Modellen wie ChatGPT, indem Sie bewährte Strategien erlernen, klare Anweisungen zu schreiben und komplexe Aufgaben zu vereinfachen.

jetzt anmelden

So funktioniert die prompting.schule



Kostenlos lernen

Unsere Kurse sind Offene Bildungsressourcen (OER). Daher frei verfügbar – bereitgestellt von der TU Graz.



Zielgruppen

Egal ob Einsteiger:in, Studierende, Berufstätige oder Lehrkräfte – hier findet jede:r den passenden Einstieg.



Flexible Zeiteinteilung

Die Kurse sind modular aufgebaut – Sie bestimmen Tempo und Zeitpunkt des Lernens.



Selbstlernkurse

Sie entscheiden selbst, wie tief Sie in ein Thema einsteigen möchten – ideal für Neugierige und Fortgeschrittene gleichermaßen.

<https://prompting.school>

AI can be used in teaching in a **wide variety**
of complex ways,
so the distinctions outlined in the LISA framework
are very helpful.

This framework provides an
essential initial categorization that can
support teaching strategies
in a **sustainable** way.



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European Teacher Academy

THANKS

Martin Ebner

martin.ebner@tugraz.at

<https://elearningblog.tugraz.at>



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