

# ▶ KI Montagsforen im BIBB

## Künstliche Intelligenz in der Beruflichen Bildung

2. Staffel, 2. Veranstaltung am 03.11.2025:

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Moderation: Torben Padur (BIBB)

Mehr Informationen zum Thema unter: [www.bibb.de/ki](http://www.bibb.de/ki)

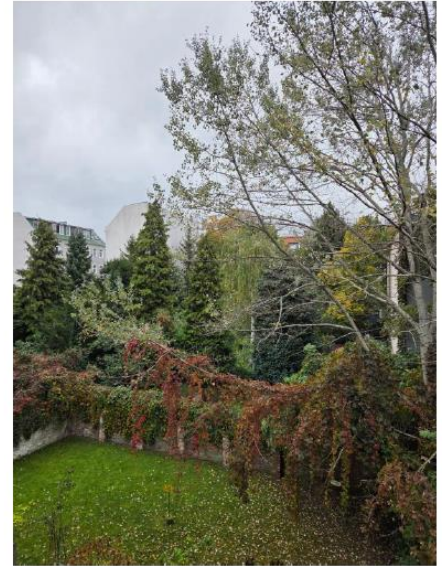
# Introducing the Competence Imitation Game: A Research and Teaching Tool for Context-Specific AI Literacy

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University of Helsinki | Department of Computer Science  
*KI in der beruflichen Bildung 3.11.2025*

# About me

- Doctoral dissertation: *Segersven (2023) Identifying social groups, boundaries and cultural competence: An Imitation Game inquiry*, Department of Social Science, University of Helsinki
- Grant funded researcher at: What Sets Us Apart? Identifying AI Enhanced Expertise in Human-Machine Interaction. **Kone Foundation** (2025-2029)
- Researcher at AI Literacy project in University of Helsinki. **Ailit.fi**
- Product owner of the **Competence Imitation Game**
- Affiliated with University of Helsinki, based in Berlin



# Artificial Intelligence and Education



*Education and life-long learning are at the forefront of integrating AI in society successfully*



AI leads to cognitive atrophy (Kosmyna et al 2025) or Intelligence Augmentation (Dede, 2025)



Mindless or mindful use of AI (Bruun et al. 2025)?



Does AI boost OR stifle creativity, inspiration, joy, autonomy, curiosity?



“Education is not filling a pail but lighting a fire”

# AI Literacy

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- “A set of competencies that enables individuals to critically evaluate AI technologies; communicate and collaborate effectively with AI; and use AI as a tool online, at home, and in the workplace” (Long & Magerko, 2019, p.2).
- Recognized as a citizen competence (EU AI Act, Art. 4; OECD & EC, 2025).
- Learn *about*, learn *with* and learn to *work and live with AI* (UNESCO, 2023).



# Challenges



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Complexity and unfamiliarity of information technologies for many people (Mannila & Heintz, 2023)

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Limited time and resources among teachers and educators

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Lack of hands-on activities beyond direct content teaching resources (Mannila et al. 2025)

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Variation in the type of AI literacy required across different domains of practice where AI systems are used (Segersven & Mannila, 2025).

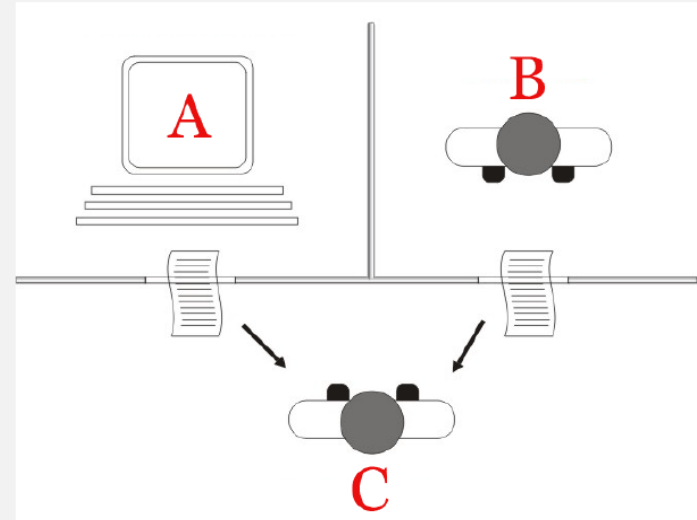
# Context-specific or *specialist* AI Literacy (Segersven & Mannila, 2025)

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- The use and impact of AI technologies and, therefore, the type of AI literacy required - varies depending on the context.
- Education, therapy, healthcare, sales, programming, research – each domain is shaped by AI in different ways
  - practitioners in each field face specific questions and challenges
- Domain practitioners who have the experience using AI in their practice possess context-specific knowledge of AI | Not system designers or AI literacy researchers.
- Challenge: How can domain practitioners' own experience and tacit knowledge be harnessed to discover and promote **context-specific AI literacy**?

# The Competence Imitation Game

- *Alan Turing (1950): Can a machine think?*
- Instead of human vs machine -> Social group vs machine
- The **Competence Imitation Game** adapts the format for research and education on human competencies in the age of AI



# Can a machine talk the talk though not climb the rock? A Turing Test on rock climbing (Segersven & Arminen, 2025)



18 Rock climbers attempt to distinguish between fellow rock climbers and ChatGPT-4 imitating a rock climber.



ChatGPT was fluent in jargon and domain-specific knowledge



Failed on questions related to embodied and emotional experiences, such as fear and training discipline.

# Programmers Game

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- **Judge's Question:** If you're stuck with a programming task, how do you go about solving it?
  - **Respondent 1:** I start by understanding the problem, checking the error messages, breaking the problem into smaller parts, looking for help in the documentation or online, and if necessary, asking colleagues or the community for advice.
  - **Respondent 2:** It depends on the problem. I always try to solve it by looking for information first, for example from existing code or through a search engine. If I'm really stuck, I ask a colleague whom I think knows about the topic.
  - **Judge's Assessment:** Answer 2 is more convincing. The answer points out that problems can be of many different kinds, so the response is not straightforward either. The writing style of Answer 1, with its commas, is very list-like, which would suggest it was written by an AI.

# Browser-based Competence Imitation Game (COMIG) application

- 
- Jointly developed with educators, AI researchers, and students at the Department of Computer Science, University of Helsinki
  - Conducted through iterative workshops.



**Prototype demonstration**

# COMIG in the school and the workplace

COMIGs can be organized for larger groups, up to 100+ players at the time

COMIGS can be played individually or in small groups

COMIGS can be played in-person or remotely

Groups and topics can include

Classroom : IT, Healthcare, Sales

Workplace: In-service teachers, programmers, healthcare workers, researchers

Everyday life: Citizenry, Parenting, Friendship, Learning – or being a human!



# Learning context- specific AI literacy

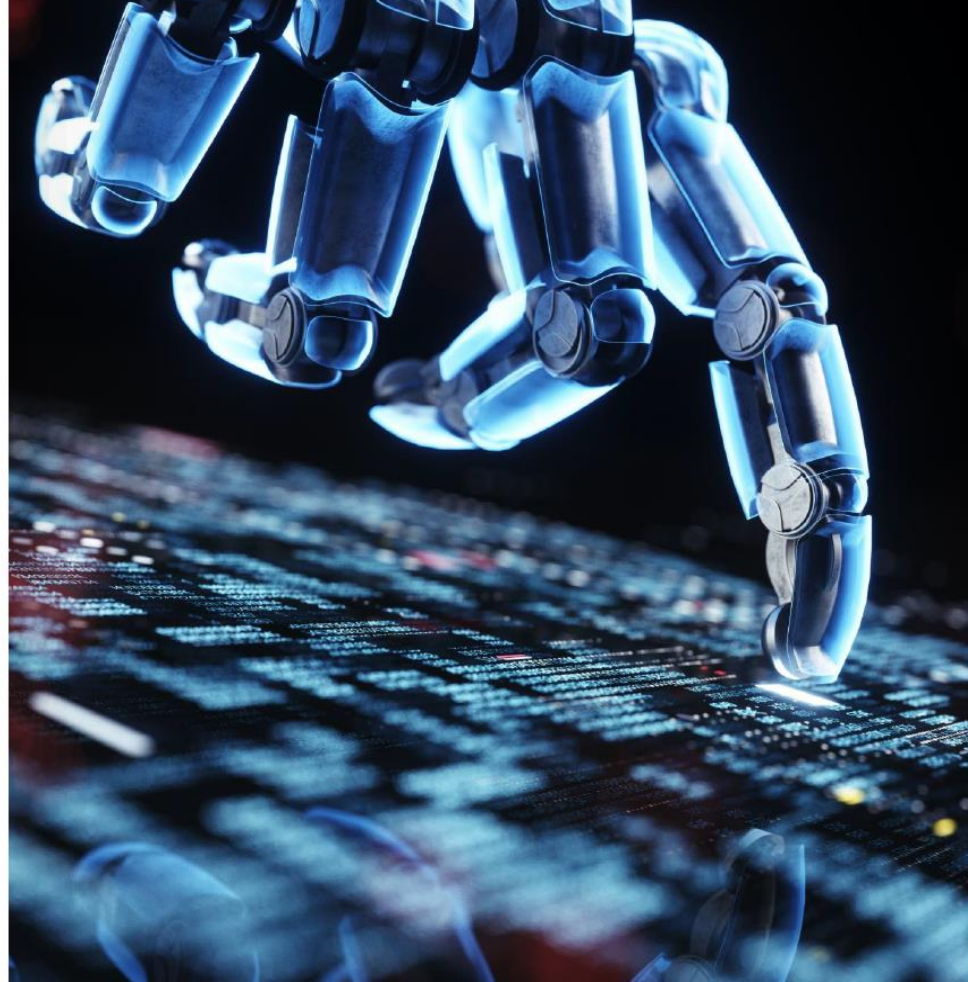


During the game itself participants reflect and explore what they have in common that is unknown by AI systems.

Promotes *learning through discovery* rather than instruction.

# Post-game discussion facilitates reflection among peers:

- What counts as competence in our field?
- What can we do that machines cannot?
- When, to what end, should, and should not, AI be used in our practice?
- How will AI change our work in the near-future?
- What upskilling, reskilling and/or deskilling will take place in field?




# Discovering human-machine difference in different communities of practice

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- How accurately can different groups identify AI from group members?
  - What kind of questions and evaluations do they make?
  - Which types of identification strategies are accurate or inaccurate?
  - What kind of competences can be mimicked by a machine?
  - What type of expertise is exclusively human?
  - **What makes us human?**



# Future Work

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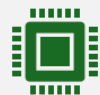
- MVP ready by end of 2025
- Pilot testing with teachers and students (2025–26).
- Conduct comparative domain studies (2026-2028)
- Develop pedagogical concept (2025-2028)



Interested in  
trying the  
COMIG in  
your  
context?



COMIG will be available for researchers and educators in the beginning of 2026



Data is stored anonymously and securely on University of Helsinki servers and made available to game organizers



Games run on UH servers and dialogues are not shared with Open AI



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# Thank you!

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## Künstliche Intelligenz in der Beruflichen Bildung

2. Staffel, 3. Veranstaltung am 10.11.2025:

**Warum Anwenderwissen nicht reicht –  
und wie wir Grundlagen (spielerisch) vermitteln**

Meike Weiland, BIBB

Prof. Dr. Michael Heister, BIBB

Mehr Informationen zum Thema unter: [www.bibb.de/ki](http://www.bibb.de/ki)

Eine Produktion im Rahmen der Online-  
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