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UNIVERSITY COLLEGE OF
CHRISTIAN CHURCHES OF
TEACHER EDUCATION
VIENNA/KREMS

AI-Literacy als neue Kernkompetenz?

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KI-Spezial HS Main 12.03.2024

Hype Cycle for Artificial Intelligence, 2023



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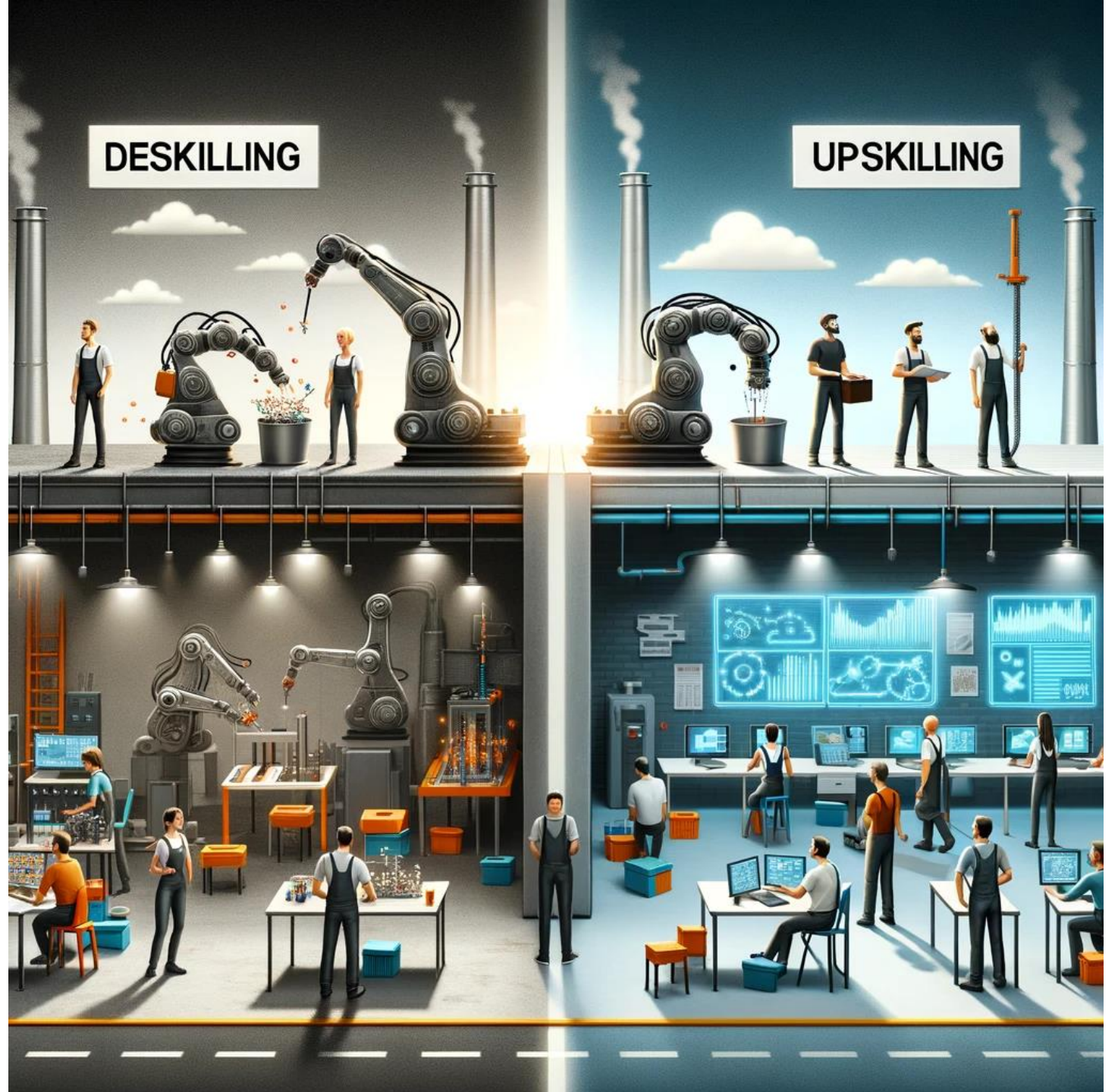
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Gartner



Innovationsfreude vs. Skepsis

Deskilling vs. Upskilling





Verteilte Kognition und Computational Offloading

Picture created with DALL-E 3 via ChatGPT 4

Was steckt
hinter dem
Begriff AI-
Literacy?



AI Literacy Competencies & Design Considerations

Long, D., & Magerko, B. (2020). What is AI Literacy? Competencies and Design Considerations. In CHI 2020 - Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems Article 3376727 (Conference on Human Factors in Computing Systems - Proceedings). Association for Computing Machinery.

WHAT IS AI?

Competencies

1. Recognizing AI
2. Understanding Intelligence
3. Interdisciplinarity
4. General vs. Narrow

WHAT CAN AI DO?

Competencies

5. AI's Strengths & Weaknesses
6. Imagine Future AI

HOW DOES AI WORK?

Competencies

7. Representations
8. Decision-Making
9. Explainability
10. ML Steps
11. Data Literacy
12. Learning from Data
13. Critically Interpreting Data
14. Action & Reaction
15. Sensors

Design Considerations

1. Explainability
2. Embodied Interactions
3. Contextualizing Data

WHAT SHOULD AI DO?

Competencies

16. Ethics

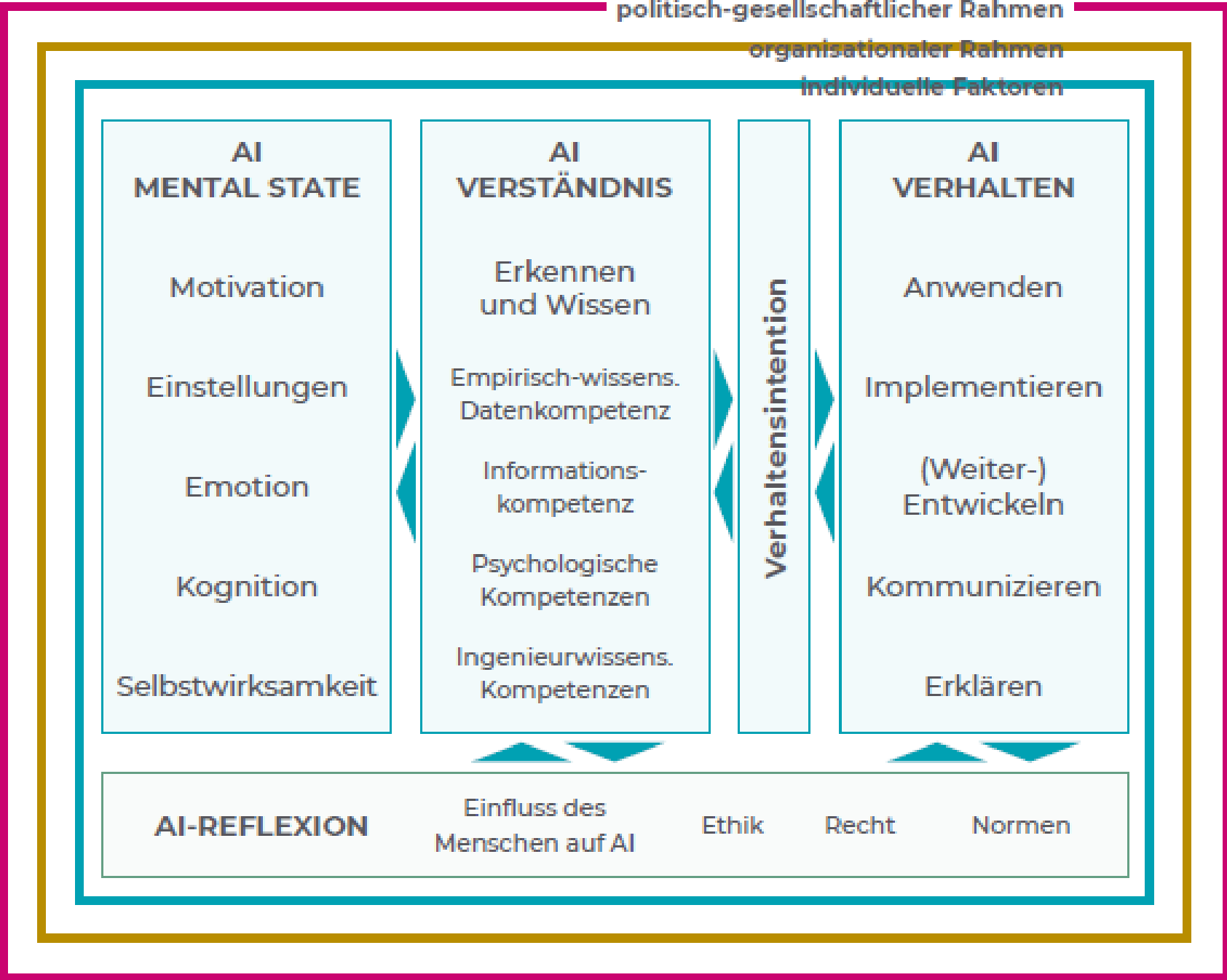
HOW DO PEOPLE PERCEIVE AI?

Competencies

17. Programmability

Design Considerations

4. Promote Transparency
5. Unveil Gradually
6. Opportunities to Program
7. Milestones
8. Critical Thinking
9. Culture
10. Support for Parents
11. Social Interaction
12. Leverage Learners' Interests
13. Acknowledge Preconceptions
14. New Perspectives
15. Low Barrier to Entry



Wienrich et al. (2022). AI Literacy: Kompetenzdimensionen und Einflussfaktoren im Kontext von Arbeit. Working Paper <https://www.denkfabrik-bmas.de>

Das soziale Umfeld mit und für KI gestalten

Kompetenzen, KI im eigenen privaten oder professionellen sozialen Umfeld angemessen einzusetzen und neue KI-bezogene Handlungsräume in Zusammenarbeit mit anderen kreativ zu gestalten.

3

Persönliche Fähigkeiten für KI-bezogene Handlungsräume

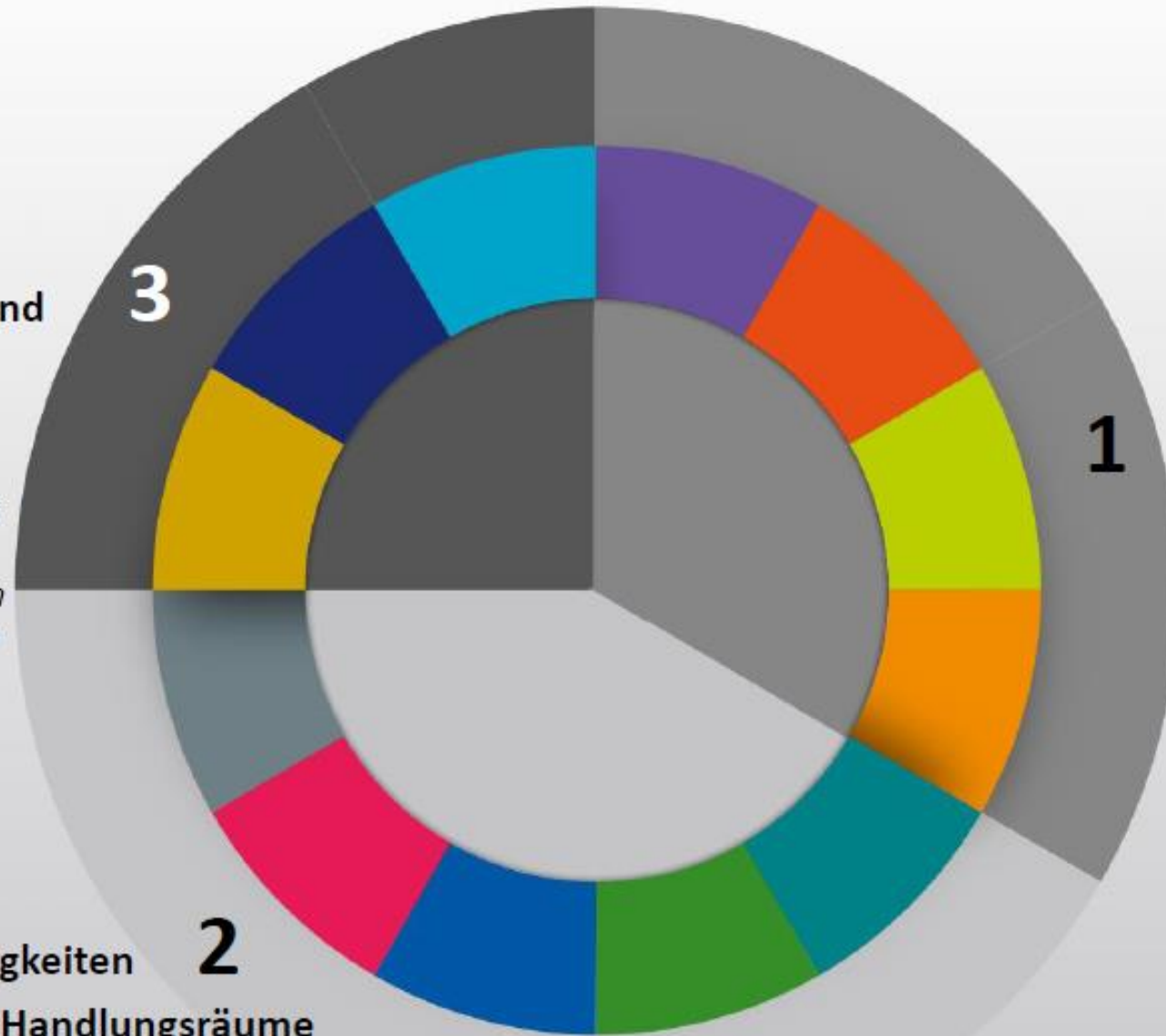
Kompetenzen, um als Individuum in einer KI-durchdrungenen Welt souverän zu handeln und KI-Konzepte und -Werkzeuge für die eigenen Ziele verantwortlich und reflektiert einzusetzen.

2

Arbeiten und gestalten mit KI und für KI

Kompetenzen, um KI-Anwendungen im professionellen Umfeld zu nutzen und für organisatorisch oder individuell bedeutsame Handlungskontexte (weiter-)zu entwickeln.

1



Ehlers,U.-D.,Lindner,M.,Rauch,E.(2023): AIComp–Future Skills für eine durch KI geprägte Welt, Karlsruhe



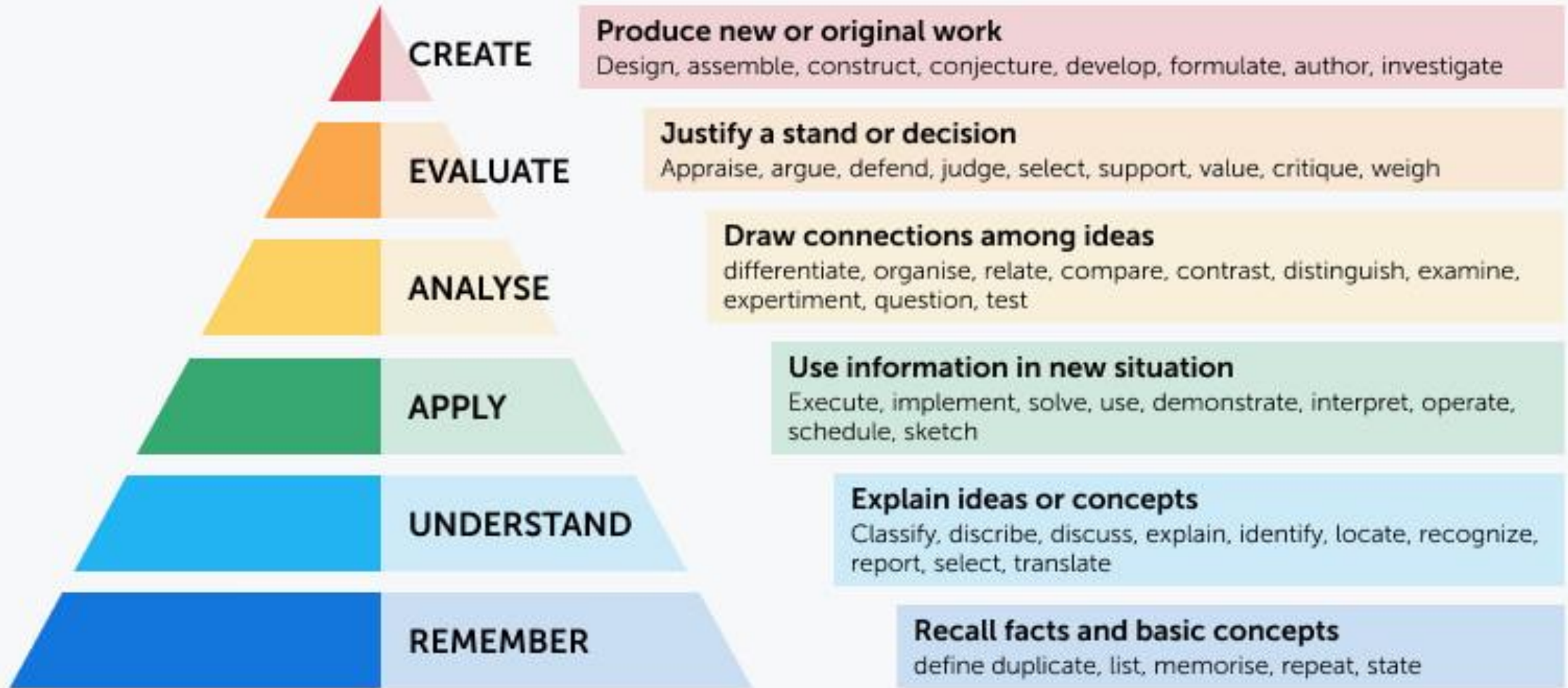
Ehlers,U.-D.,Lindner,M.,Rauch,E.(2023):
AIComp–Future Skills für eine durch KI
geprägte Welt, Karlsruhe



Was bedeutet das für die Lehre?

Picture created with DALL-E 3 via ChatGPT 4

Bloom's Taxonomy



Bloom's Taxonomy Revisited

Use this table as a reference for evaluating and making changes to aligned course activities and assessments (or, where possible, learning outcomes) that account for generative Artificial Intelligence (AI) tool capabilities and distinctive human skills.

All course activities and assessments will benefit from **review** given the capabilities of AI tools; those at the **Remember** and **Analyze** levels may be more likely to need **amendment**.



| | RECOMMENDATION | AI CAPABILITIES | DISTINCTIVE HUMAN SKILLS |
|-------------------|----------------|---|---|
| CREATE | Review | Suggest a range of alternatives, enumerate potential drawbacks and advantages, describe successful real-world cases | Formulate original solutions incorporating human judgement, collaborate spontaneously |
| EVALUATE | Review | Identify pros and cons of various courses of action, develop rubrics | Engage in metacognitive reflection, holistically appraise ethical consequences of alternative courses of action |
| ANALYZE | Amend | Compare and contrast data, infer trends and themes, compute, predict | Critically think and reason within the cognitive and affective domains, interpret and relate to authentic problems, decisions, & choices |
| APPLY | Review | Make use of a process, model, or method to illustrate how to solve a quantitative inquiry | Operate, implement, conduct, execute, experiment, and test in the real world; apply creativity and imagination to idea & solution development |
| UNDERSTAND | Review | Describe a concept in different words, recognize a related example, translate | Contextualize answers within emotional, moral, or ethical considerations |
| REMEMBER | Amend | Recall factual information, list possible answers, define a term, construct a basic chronology | Recall information in situations where technology is not readily accessible |

Lehren und Lernen mit und über KI



Der Hype-Cycle von ChatGPT



"KI-Literacy", d.h. die Fähigkeit, KI-Systeme, deren Outputs und Wirkungsdimensionen zu verstehen und zu interpretieren, muss ebenso wie konkrete Anwendungskompetenzen, z.B. das Prompting, verstärkt in alle Studiengänge integriert werden.

Friedrich, J.-D., Tobor, J., Wan, M. (2024). 9 Mythen über generative KI in der Hochschulbildung. Diskussionspapier Nr. 29. Berlin: Hochschulforum Digitalisierung. S. 9

Vielen Dank
für Ihr Interesse!

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Picture created with Doodle Morph AI

