AI meets OER

… Supporting materials for OER workshops

The materials presented here were developed as part of the "OERLe BNE“ project. The aim of the project is to promote the participatory design of Open Educational Resources (OER) and Open Educational Practices (OEP) in the second phase of teacher training.
These materials are the result of workshops on OER and OEP and OER workshops on geography teaching at Martin Luther University Halle-Wittenberg.
These materials are intended as dynamic resources that are openly available for further use, adaptation and distribution in line with the OER movement. When using them, please observe the following licence information:

Bundesministerium für Forschung, Technologie und Raumfahrt

OERLe BNE

MARTIN-LUTHER-UNIVERSITÄT HALLE-WITTENBERG

DIDAKTIK DER GEOGRAPHIE

AI meets OER

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Artificial intelligence (AI) opens up new possibilities for the development of open educational resources (OER): texts, graphics, interactive content and translations can be created more quickly and often with fewer barriers. AI can serve as a creative assistant, helping to structure, formulate and visualise learning content. Users are spoilt for choice: which AI should they choose, and which is accessible?

At the same time, the use of AI raises new questions: Who is the author of AI-generated content? What licence is legally required? And how transparently must the use of AI in OER be documented? Another key aspect is ethical reflection: AI systems can reproduce existing social discrimination - for example, through distorted training data or stereotypical language patterns. Anyone creating OER with AI should be aware of these risks and take conscious steps to counteract them in order to design inclusive and fair learning materials.

The combination of AI and OER offers potential – but must be critically monitored and designed in a didactically responsible manner. We would like to contribute to this with the following materials.

Open Educational Resources

1

Flashcards on AI and copyright

These flashcards offer compact pieces of information on the legal aspects of AI and copyright. The front side contains key questions about AI and copyright, while the back side provides brief explanations - they can be used, for example, as self-tests or for group discussions.

2

Using AI applications effectively

The structured overview lists various AI tools with their areas of application, whether they are free of charge and whether registration is required. It is a good starting point for anyone who wants to try out AI for a variety of practical purposes.

3

Unfolding Bias

The leaflet raises awareness of ethical challenges in the use of AI with regard to discrimination and bias. It provides key causes, examples, questions for reflection and support options, such as using a bias checker.

Jane Doe uses AI to create a graphic. Can she openly license the graphic?

Does copyright protection apply if AI output is creatively modified by a human being?

Jane Doe makes significant changes to an AI graphic. She expands it and replaces individual elements and headings. Is she allowed to openly license the graphic?

Jane Doe incorporates an AI graphic into her openly licensed presentation. Is she permitted to do so?

Jane Doe enters a third-party infographic ("All rights reserved") into the AI. Can she openly license the output?

Jane Doe uses an AI-modified third-party graphic for her openly licensed presentation. Is this permitted?

One prompt reads: "Create me a picture in the style of Monet!" Can the prompt be published?

One prompt reads: "Translate this text (someone else's work) for me!" Can the prompt be published?

Jane Doe uses ChatGPT to create exam questions. Is she allowed to openly license them?

A teacher uses AI to generate a comic image in the style of "Asterix". Can she openly license the image?

A student uses AI to create an illustration of an experiment and adds arrows and his own labels. Is he allowed to openly license it?

Jane Doe uses an AI tool to generate a photorealistic image of a real person. Is she allowed to use this in OER?

Yes. It stands out significantly from the original graphic and is sufficiently distinctive.

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Yes. The output may be openly licensed.

(„OER VIELSEITIG UND RECHTSKONFORM MIT KI AUFWERTEN" by twillo under licence CC BY 4.0 via twillo)

No. AI output is in the public domain and free of copyright.

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No, unless the graphic differs significantly from the original. In that case, it may be incorporated, but remains in the public domain.

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No. Without the author's consent, this constitutes an unauthorised adaptation.

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Yes. Since the graphic is in the public domain, it can be incorporated into an openly licensed presentation. However, the graphic itself remains in the public domain.

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Yes, if he selects and adapts the questions. Pure AI output would be in the public domain, but human selection creates a protectable work.

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No. Translations are adaptations that require approval.

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Yes. Styles are not protected by copyright.

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No. Even if the image is in the public domain, personal rights could be infringed.

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Yes. The design itself achieves the threshold of originality; the AI components remain in the public domain.

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No. The style is free, but characters and trademarks may be protected.

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AI application	intended use	free of charge	Registration required
FOR RESEARCH			
Perplexity AI	Responding to complex knowledge requests	Yes (basic version)	Partial (use of PRO search)
Open Knowledge Maps	Researching scientific literature, mapping literature	Yes	No
FOR TEXTS			
DeepL translator	Proofreading and translating texts	Yes	No
YeschatAI	Bias checking of texts	Yes	No
FOR IMAGES			
Lovart AI	Generate image from text	Yes	Yes
Raphael AI	Generate image from text	Yes	No
FOR AUDIO			
Luvvoice	Audio from text, 70 languages	Yes	No
TTSMaker	Audio from text, commercial use	Yes	No
FOR EVEN MORE AI			
Future Tools	Find AI applications	Yes	No
Advanced Innovation	Find AI applications	Yes	No

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FOR RESEARCH			
Perplexity AI	Responding to complex knowledge requests	Yes (basic version)	Partial (use of PRO search)
Open Knowledge Maps	Researching scientific literature, mapping literature	Yes	No
FOR TEXTS			
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FOR IMAGES			
Lovart AI	Generate image from text	Yes	Yes
Raphael AI	Generate image from text	Yes	No
FOR AUDIO			
Luvvoice	Audio from text, 70 languages	Yes	No
TTSMaker	Audio from text, commercial use	Yes	No
FOR EVEN MORE AI			
Future Tools	Find AI applications	Yes	No
Advanced Innovation	Find AI applications	Yes	No

CAUSES

Biases in training data
When training with datasets that reflect social inequalities, these inequalities are reproduced.

Non-representative datasets
If certain groups are underrepresented in the training data, AI systems may deliver poorer results for these groups.

Designer bias
Developers can introduce bias into algorithms by favoring certain features.

Proxy variables
Even if sensitive characteristics are removed, other characteristics (e.g., zip code) may appear and indirectly reflect the same social patterns.

EXAMPLES

In 2014, Amazon developed an automated tool for selecting applicants – but it quickly became apparent that it systematically disadvantaged women. The AI was trained using data from existing (predominantly male) employees and favoured applications that resembled them.

AI image generators reproduce systematic biases. For terms such as "journalist" or "reporter," the AI generated almost exclusively images of young, white, conservatively dressed people. Women appeared mostly young and wrinkle-free, while men were also shown with signs of aging. Further distortions occur with regard to racism and classism.

REFLECT PROMPTING

Choose your words carefully
Use inclusive and respectful language. Avoid terms that could reinforce prejudices or stereotypes.

Consider the context
Provide the AI with sufficient background information. Who is affected? What perspectives are missing?

Clarify your intention
What is the goal of this prompt? Is it about understanding, problem solving, or forming an opinion? A clear intention leads to better results.

Critically examine responses
What assumptions underlie them? What voices are missing? Where could there be bias?

BIAS CHECKER

Bias checkers offer a way to check AI-generated texts for discriminatory language, stereotypical representations, and implicit biases. YesChat-AI, for example, works in your browser, is free, and does not require registration.

By analysing formulations and suggestions, it helps OER creators and AI users to make content more sensitive. It is particularly helpful when used for reflection: What perspectives are missing? How can language be formulated so that it does not exclude anyone?

https://www.yeschat.ai/gpts-9t557fc9a9y-Bias-Detector

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NOTES

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