

ChatGPT in Education – Let's Think Step by Step

by Michael Schwarz / 7 Dec. 2023

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Masterseminar

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1. Introduction

BACKGROUND

- OpenAI released ChatGPT at 30 Nov. 2022
- Extensive discussions about possible applications
- ChatGPT has the potential to transform education

RESEARCH QUESTIONS

1. Are **prerequisites** fulfilled for the use of ChatGPT in the field of education and which **restrictions** must be followed? [Q1]
2. How can ChatGPT be **practically integrated** in educational settings for learners and lecturers? [Q2]
3. How effective are current **detection mechanisms** in academic writing? [Q3]

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2. Prerequisites for the Use of ChatGPT [Q1] – Legal Framework

PERSONAL ACCESS (Free/Pro)

-  Age restriction
-  Free and paid accounts
-  Data is collected and processed by OpenAI
-  User owns input and output data

BUSINESS ACCESS (API/Enterprise)

-  GDPR & DPA compliant
-  High security, privacy and performance
-  Enterprise features like user management, SSO, etc.

2. Prerequisites for the Use of ChatGPT [Q1] – Legal Framework

PERSONAL ACCESS (Free/Pro)

-  Students write prompts on a paper
-  Students use teacher access ~grey area
-  Students use their personal access

BUSINESS ACCESS (API/Enterprise)

-  Institutions offer access for each student and lecturer

2. Prerequisites for the Use of ChatGPT [Q1] – Teacher Survey

SURVEY

- Polak, Schiavo, Zancanaro / 2022
- 135 teachers

RESULTS



Positive Will factor



Basic level of digital skills but low AI-related



Development of digital skills among teachers

3. ChatGPT for Learners and Lecturers [Q2] – Learners

SCHOOL

Ethical awareness and fundamental skills

“Co-Pilot”, “Find-the-Mistake”, “Group-Puzzle”, “Checklist”

Expertengruppe „Buch“  <ul style="list-style-type: none">- Nehmt das Stichwortverzeichnis zuhilfe.- Recherchiert in den vorgegebenen Büchern ggf. weiter, wenn euch Begriffe und Formulierungen unbekannt sind.	Expertengruppe „Internetrecherche“  <ul style="list-style-type: none">- Verwendet eine Suchmaschine eurer Wahl.- Verzichtet auf Wikipedia.- Gebt euch nicht mit den erstbesten Ergebnissen zufrieden.- Notiert die Quellen eurer Informationen.	Expertengruppe „ChatGPT“  <ul style="list-style-type: none">- Stellt dem Chat die Fragestellung.- Formuliert die Antwort altersgerecht um.- Klärt die Fachbegriffe.- Lasst euch die Informationsquellen auflisten.
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Group-Puzzle

<https://www.friedrich-verlag.de/kuenstliche-intelligenz-in-der-schule-chatgpt-und-co-im-unterricht>

3. ChatGPT for Learners and Lecturers [Q2] – Learners

UNIVERSITY

-  Structured, creative and critical thinking
 -  “Co-Pilot” for learning, writing, coding, research, etc.
 -  Prompt engineering is a skill of the future
-
-  Ask the teacher about the rules for using ChatGPT

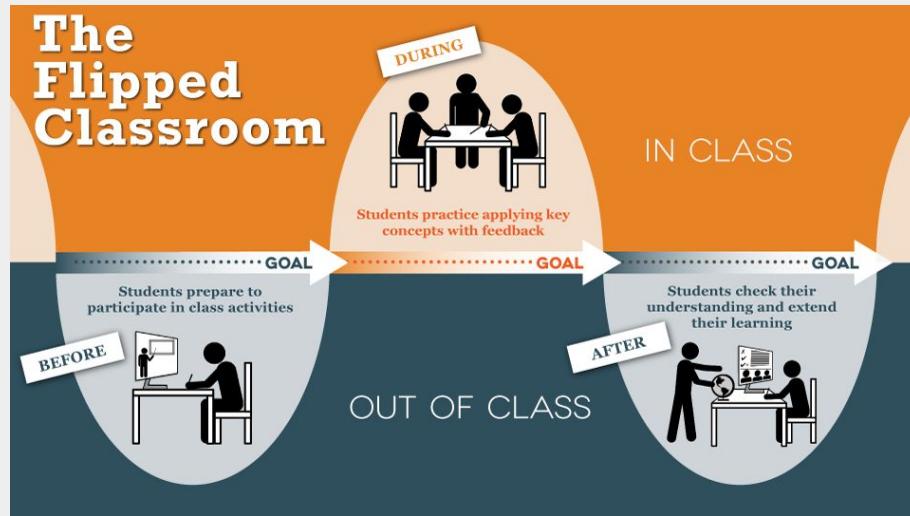


Aufbau eines ChatGPT Mega-Prompt (© Rob Lennon 2023, @thatrobolennon/Twitter)

3. ChatGPT for Learners and Lecturers [Q2] – Lecturers

TEACHING

- 👤 Encourage students to use ChatGPT
- 👤 “Co-Pilot” for creating lecture ideas and lesson plans
- 👤 “Flipped classroom”



[https://ctl.utexas.edu/sites/default/files/flippedgraphic\(web960px\).png](https://ctl.utexas.edu/sites/default/files/flippedgraphic(web960px).png)

3. ChatGPT for Learners and Lecturers [Q2] – Lecturers

ASSESSMENT

-  Offloading → More complex questions
-  Rules and guidelines for ChatGPT
-  Innovate assessment formats *e.g. presentation*
-  Supervision Process *e.g. reflection report or conversation log*
-  Rethink evaluation criteria *e.g. contributions, research questions*

4. Detecting ChatGPT-generated Academic Writing [Q3]

CHECKGPT

- Liu, Yao, Li, Luo / 2023

CHARACTERISTICS

- ChatGPT is/(was) designed as a chat interface simulating human conversation
- Conversation: subjective, personal, emotional
- Academic Writing: formal, objective, highly specialized topic

TASKS (150.000 samples per task)

- GPT-written full abstract [T1]
- GPT-completed abstract [T2]
- GPT-polished abstract [T3]
- (Human written)

4. Detecting ChatGPT-generated Academic Writing [Q3]

RESULTS

- ✗ Humans
- ✗ ZeroGPT, GPTZero, OpenAI Classifier
- ✓ CheckGPT

\emptyset	CheckGPT	ZeroGPT	GPTZero	OpenAI Classifier	Human
T1	99,96%	76,03%	42,53%	71,23%	43,81%
T2	98,68%	32,56%	22,23%	38,23%	-
T3	98,64%	10,23%	8,1%	5,53%	37,5%

(Zeyan et al., 7 Jun 2023)

5. Take Aways

-  Need for accessible, secure access for lecturers and learners
 -  Teachers need to be trained in AI-related tools
 -  Encourage to use AI-tools like ChatGPT
 -  Many available resources and application scenarios
 -  ChatGPT as a supplement brings advantages
 -  Respect the rules: CheckGPT can still uncover cheating
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- ChatGPT Enterprise meets the requirements *and will transform education*

6. Discussion – Pingo 797270

<https://pingo.coactum.de/797270>



The screenshot shows the homepage of the Hochschule Augsburg's Didaktik-Medien-Zentrum. The main navigation bar includes links for Studieren, Weiterbildung, Forschen, International, Hochschule, Service, Didaktik, Medien, gfcycle, Tools, Schulungen, and KI in der Lehre. Below the navigation, there is a banner for "ChatGPT für Studierende". The banner features a smartphone displaying the ChatGPT interface. Text on the page explains what ChatGPT is, how it was developed, and how it can be used for generating text, summarizing, and answering questions. A "Hier geht's zu ChatGPT" button is at the bottom.

<https://www.tha.de/ChatGPT-fuer-Studierende.html>

The promotional image for the Hochschulkiste podcast features a large elephant standing in a dark, minimalist setting. The title "Hochschulkiste Der Podcast" is displayed above the elephant, which has a small headphones icon on its side. Below the elephant, text reads "Season 1: KI in den Bereichen Lehre, Lernen und Arbeit" and "Der neue Podcast der THA von Student:innen für Student:innen." A QR code is located in the top right corner of the image.

<https://hochschulkiste.de>