

AI meets Fremdsprachenlehre

Workshop-Tage am TUM Sprachenzentrum

6. bis 8. März 2024

Sollen Studierende generative KI für das Schreiben im akademischen Umfeld nutzen? Und wenn ja: Wie?

Mittwoch, 6. März, 10:00-11:30

Referent:innen:

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Should students use generative AI for writing in an academic environment? And if so, how?

Wednesday, March 6, 2024, 10:00-11:30am

and staff

How to talk to students^v about their options

Rose Jacobs
Stephen Starck
Karl Hughes

Trust
Quality
Process

Trust Quality Process

Prompt: write me a poem about a tragedy

In the depths of shadows, where sorrows reside, **A**
A heart once shattered, now seeks to abide. **A**
Amidst the darkness, a glimmer of light, **B**
A journey commences, to overcome the night. **B**

With each passing day, wounds slowly heal, **C**
As time becomes companion, helping us deal. **C**
Honoring memories, both joyous and sad, **D**
We embrace the journey, the good and the bad. **D**

Trust Quality Process

Prompt: Now please make it not rhyme

In shadows deep, where sorrows reside, **A**
A heart once shattered, seeks solace inside. **A**
Amidst the darkness, a glimmer of light, **B**
A journey unfolds, to mend and ignite. **B**

Through tearful nights and heavy hearts' weight, **C**
Amidst grief's embrace, resilience takes shape. **C**
A spirit emerges, resilient and strong, **D**
From depths of despair, finding where it belongs. **D**

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Trust Quality Process

Prompt: Really, no rhyming!

In shadows deep, a world riven by sorrow, **A**
A shattered heart seeks escape, not solace, **B**
But finds a surprise, a glimmer of light, **C**
On a path that had seemed drenched only in darkness. **D**

Not today, not even tomorrow— **A**
Time as a companion, time as a poultice— **B**
Wounds start to heal, new skin starts its fight **C**
To grow once again, where memory seeds harvests. **D**

Idea generation prompt:

“Brainstorm ideas for an essay on methane gas”

ChatGPT response:

1. Introduction:

Brief overview of methane gas: its chemical composition, properties, and significance in the context of climate change.

Highlight the urgency of addressing methane emissions due to its net greenhouse effect and shorter atmospheric lifespan compared to carbon dioxide.

2. Natural Sources of Methane:

Exploration of natural processes that produce methane, including microbial activity in wetlands, methane seepage from geological formations, and methane release from the digestive systems of ruminant animals.

Discussion on the role of natural methane emissions in the Earth's carbon cycle and ecosystem dynamics.

3. Anthropogenic Sources of Methane:

Analysis of human activities contributing to methane... *(CONTINUED WITH FOUR MORE SUGGESTED SECTIONS OF THE ESSAY...)*

This is an outline – not ideas

Idea generation prompt:

“Provide potential topics for an essay on methane gas”

ChatGPT response:

Certainly! Here are several potential topics for an essay on methane gas:

1. The Role of Methane in Climate Change
2. Sources and Emission Trends of Methane
3. Impacts of Methane Emissions on the Environment
4. Technological Solutions for Methane Mitigation
5. Policy Approaches to Addressing Methane Emissions
6. The Economics of Methane Mitigation
7. Social and Equity Considerations in Methane Mitigation
8. The Role of Methane in Sustainable Development
9. Innovations and Advances in Methane Research to Address Emissions
10. The Future of Methane Management

At the heart of this endeavor lies a fundamental aim: to harness probabilistic techniques that elucidate the workings of financial markets, inform regulatory practices, and, crucially, determine pricing mechanisms for diverse options.

ChatGPT prompt: make the sentence as formal as possible

At the heart of this endeavor lies a fundamental aim: to harness probabilistic techniques that elucidate the workings of financial markets, inform regulatory practices, and, crucially, determine pricing mechanisms for diverse options.

Original text:

The basic idea is to provide probabilistic techniques that help people understand how financial markets work, how they should be regulated, and, particularly, how prices are set for underlying portfolios.

Trust Quality Process

Digital twins have come a long way since their inception during NASA's Apollo missions in the 1960s. **Back then**, NASA employed basic computer simulations to replicate and understand physical systems. **As we entered the 21st century**, technological advancements, particularly the rise of the Internet of Things (IoT) and the onset of the Fourth Industrial Revolution (Industry 4.0) expanded the horizons for digital twins. Today, digital twins **are playing** crucial roles in areas like healthcare, urban planning, and **even** retail. **Why 'even'?**

A digital twin is a digital replica of a physical entity or system, bridging the gap **between** the physical and digital realms. It **leverages** sensors, real-time data, and advanced software to create a dynamic, virtual representation of a product, process, or system. This model can be used to analyze, simulate, and predict performance behaviors, allowing **stakeholders** to optimize, monitor, and troubleshoot the corresponding physical entity. **Who exactly?**

Original text:

Effects of changes in the standard operating modes of a turbine and their impact on the traceability of flow structures.

In our study, flow measurements were conducted in the Dieter-Thoma-Laboratory of the Technical University of Munich in a low-head turbine test rig. A semi-spiral Kaplan turbine with applied discharge values between 225 and 420 l/s at a head of 3.4m was used during measurements. A 5-hole-vector-probe was used for flow measurements downstream of the runner and an ADV probe for those in the tailwater of the test rig. Results show that...

ChatGPT:

Impact of Variations in Standard Operating Modes on Turbine Performance and Flow Structure Traceability

In this study, we investigated the effects of altering the standard operating modes of a turbine and their implications for the traceability of flow structures. The experimental measurements were conducted at the Dieter-Thoma-Laboratory of the Technical University of Munich, utilizing a low-head turbine test rig featuring a semi-spiral Kaplan turbine. The discharge values applied ranged between 225 and 420 l/s at a head of 3.4m during the measurements. Flow measurements downstream of the runner were taken using a 5-hole vector probe, while an ADV probe was employed to measure the flow in the tailwater of the test rig. The results of our study indicate that...

TUM Coaching

Helping Fish Find their Way: A New Approach to Optimizing Upstream Fishways by Modifying Turbine Operating Modes.

This paper details a new approach to helping upstream migrating fish find their way into fish ladders installed at hydropower plants in rivers. By intentionally changing the operating mode of turbines, we manipulated the flow structure in the tailwater of a power plant with the aim of improving the traceability of upstream fishways for spawning species. Measurements were conducted using a low-head test rig with a semi-spiral Kaplan turbine, applying discharge values between 225 and 420 l/s at a head of 3.4m. Initial results indicate that...

ChatGPT: Write acknowledgements for my professor and supervisor

With profound gratitude, I embark on the journey of expressing reflections that meander through the labyrinthine passages of my doctoral journey, recalling its beginnings. I extend my heartfelt appreciation to Professor XXX. His kind support not only gave me the chance to discover my potential but also helped me every step of the way on this life-changing path. In the symphony of my academic odyssey, a heartfelt tribute gracefully unfolds to the esteemed Dr. XX XXX. Her intricate contributions added a profound dimension to my life, providing unwavering support. Shoulder to shoulder, we waltzed through the enduring path, a poetic duet of ups and downs.

TUM Coaching

I would first of all like to extend my heartfelt appreciation to Professor XX XXX. His incisive contributions were crucial to the completion of this dissertation, and his encouragement and good humour kept me going in moments of difficulty and doubt. My thanks also to Dr. XX XXX. Her support and detailed feedback was invaluable and greatly appreciated.

Ultimately,
the student
has to
decide...



Trust Quality Process

Ultimately,
the *writer*
has to
decide...



Sollen Studierende KI-Tools in Deutschkursen auf A2 nutzen?

Christine Reulein
Valeska Hagner

Sollen Studierende KI-Tools in Deutschkursen auf A2 nutzen?



Teil 1: Resultate einer Aufgabe auf Niveau A2.1

„Write a dialogue with your partner about your time at secondary school.“

Methode: DeepL als Lernpartner

DEUTSCH → ENGLISCH → DEUTSCH

Deutsch schreiben

- sich spontan in der Fremdsprache äußern
- Wissen über Regeln aktivieren - Text überarbeiten

Übersetzung mit DeepL: Deutsch → Englisch

- automatische Verbesserung der Rechtschreib- und Grammatikfehler
- Inhalts-Check - Originaltext ggf. ändern

Rückübersetzung: Englisch → Deutsch

- Veränderung markieren - Regel nennen

Vorteile 😊

DeepL

Korrektur: Rechtschreibung, Endungen

- *Viele spass*
Viel Spaß

Korrektur: Präpositionen, Pronomen

- *Nach der Schule hat er mit deinem Freunden getroffen.*
Nach der Schule hat er sich dann mit seinen Freunden getroffen.

Nachteile ☹️

DeepL

Veränderung: Verben

- *Er hat in der Schulzeit gefallen.*
Er mochte es in der Schule.
Anstatt: **Ihm** hat die Schule gefallen.

Veränderung: Perfekt - Präteritum

- *Sie hat einen Deutschkurs genommen, weil sie nach München gegangen ist.*
Sie belegte einen Deutschkurs, weil sie nach München ging.
Anstatt: Sie hat einen Deutschkurs **gemacht**, weil sie nach München **gegangen ist**.

Nachteile ☹️

DeepL

Korrektur: links → rechts

- *Er hat nach der Schule zur Uni gegangen.*
Er hat nach der Schule die Universität besucht.
Anstatt: Er **ist** nach der Schule zur Uni gegangen.

Veränderung: Inhalt









- *Er hat viele Fächer gemacht.*
Er hat viele Themen bearbeitet.
Anstatt: Er **hatte** viele Fächer.

Teil 2: Reflexion der Studierenden

Possessivartikel, Präposition

Beispiele	Regel - ja / nein?	DeepL - hilfreich?
<i>... „seine“ is the correct possessive pronoun instead of „ihre“ for „his“.</i>	✓	😊
<i>I wrote „nach Libanon“ but after some research I found out the countries with an article we use „in“ with them rather than „nach“ which is for countries without an article.</i>	✓	😊
<i>... „ihren Freunden“ is used to make the gender clear.</i>	✓	😊

Wortschatz

Beispiele:	Regel - ja / nein?	DeepL - hilfreich?
<i>I used „India“; DeepL used „Indien“.</i>		
<i>Since the bus is a moving vehicle, „fahren“ is a better verb than „gehen“.</i>		
<i>„Jetzt lebt er in München und studiert Technik an der TUM.“ - DeepL used „lebt“ instead of „wohnt“ - both are correct but probably it is better to say „lebt“.</i>		
<i>Both verbs angeln and fischen mean to fish.</i>		

Uups!

Tempus

Beispiele:	Regel - ja / nein?	DeepL - hilfreich?
<i>I need to learn how to use „kam“.</i>	✗	☹️
<i>I don't know the verb „kam“, but I believe my original sentence is correct too.</i>	✗	☹️
<i>I tried to write the first sentence in Partizip II but DeepL had other ideas.</i>	✗	☹️
<i>I think DeepL tries to use Präteritum to provide proper writing text.</i>	✓	☹️

ChatGPT als „Erstkorrektor“ bei einer Prüfungsaufgabe

Aufgabe 1:

1. eine Person aus dem Kurs mithilfe vorgegebener Fragen **interviewen** (Sport/Wohnen)
2. das Interview in der Ich-Form **schreiben + hochladen**

Aufgabe 2:

3. Interview **von ChatGPT korrigieren lassen**

Prompt: Schreiben Sie, dass der Text ein Interview auf **A2.2-Niveau** ist.

4. mit Originaltext **vergleichen** + korrigierte Stellen **markieren**
5. kurze **Reflexion** schreiben:

Fehlerkorrektur verstanden? Korrektur durch ChatGPT hilfreich? Konkrete Ideen fürs Weiterlernen?

Ist ChatGPT als „Erstkorrektor“ geeignet?

Originaltext mit **meinen Korrekturen**

P: Zuerst haben meine Eltern mich mitgenommen. Ich fühle mich Lebhaft (**lebendig**) und es gibt viele verschiedene Optionen, kreativ zu sein und sich zu **auszu**drücken.

O: Hmm.. Das war eine interessante Antwort. Nächste Frage ist: Wo und wie oft trainierst du?

P: In Finnland trainiere ich vielleicht viermal in der Woche mit vielen **verschiedenen** Lehrern und Lehrerinnen.

O: Trainierst du **auch** am Wochenende **auch**?

P: Ja, ich trainiere **auch** am Wochenende **auch**.

O: Wahnsinn! Ich glaube, dass **es** sehr anstrengend ist.

P: Ja, es ist **unbedingt** anstrengend.

Originaltext mit Korrekturen von **ChatGPT**

P: Zuerst haben meine Eltern mich mitgenommen. Ich fühle mich **lebhaft** und es gibt **Möglichkeiten** (**Optionen passt auch!**), kreativ zu sein und sich **auszu**drücken.

O: Hmm.. Das war eine interessante Antwort. **Die** Nächste Frage ist: Wo und wie oft trainierst du?

P: In Finnland trainiere ich vielleicht viermal in der Woche mit vielen **verschiedenen** Lehrern und Lehrerinnen.

O: Trainierst du **auch** am Wochenende?

P: Ja, ich trainiere **auch** am Wochenende.

O: Wahnsinn! Ich glaube, **das ist** sehr anstrengend.

P: Ja, es ist **auf jeden Fall** anstrengend.

Wie gut haben Vergleich und Fehleranalyse funktioniert?

beeindruckend gut bei einigen Studierenden:

- Do not capitalize the starting letters after expressions like **Ja**.
- Use correct indefinite article in the dative case for masculine and neuter nouns.
- Use **sie** and **er** for feminine and masculine nouns instead of using **es**.
- ...

weniger gut bei anderen Studierenden:

- I understand the corrections. Most of the errors are related with forgotten capital letters.
- Yes, it helped me realize some errors I did.

Wie haben die Studierenden den Einsatz von ChatGPT bewertet?

eher positiv:

First is that **I can save lot of time by asking AI to fix the mistakes**. Second is that I can ask AI to point out some things from inputted text. For example: "**Explain me my mistake in ...**"

I would still probably make similar mistakes in the future, since they weren't "consistent" so that we would repeat them, but **it really made me go through the mistakes** when I had to correct them to the text, though **it was a little slow**.

If you are able **to provide the correct prompt**, there is really nothing that AI cannot do. For example, **I realized that I have really important problems with Adjektiv Deklination** because most of my mistakes, that AI corrected ...

Wie haben die Studierenden den Einsatz von ChatGPT bewertet?

eher negativ:

The AI had a difficult time to explain why it is “im Westen der Türkei.” I had to refresh several times to get a correct answer. Also, many times **it claims to correct the interview without changing anything.** It is hard to use the AI properly and **it isn't helpful, because it makes so many mistakes itself.**

Sollen Studierende ChatGPT in Deutschkursen nutzen?

Ja, aber ...

- 1. Prompt schärfen:** um weitere „Niveauspezifika“ ergänzen
- 2. Qualität** der abgegebenen Prüfungsaufgaben **sicherstellen**
 - Sinn und Zweck des Einsatzes von ChatGPT besser kommunizieren
(Lernziel: kann eigene Fehler erkennen und beschreiben;
kennt Strategien, diese zu beheben (?))
 - den Studierenden Best-Practice-Beispiele an die Hand geben
 - Bewertungskriterien überarbeiten
- 3. Skills Gap** bei der Fehler-/Textanalyse **verringern**
 - das Beschreiben und das Kategorisieren/Gewichten von Fehlern anhand von Texten im Unterricht üben

Group discussion

Table 1

Table 2

Table 3

Table 4

Table 5

How do YOU talk to your students about generative AI?

Please be ready to summarize and share your ideas.

Where do we go from here?

Do we, as writing instructors, have a united voice?
How do we make ourselves heard?