

GenAI VOOR ONDERWIJS- EN ONDERZOEKSDOELEINDEN (BACHELOR- EN MASTERPROEF)

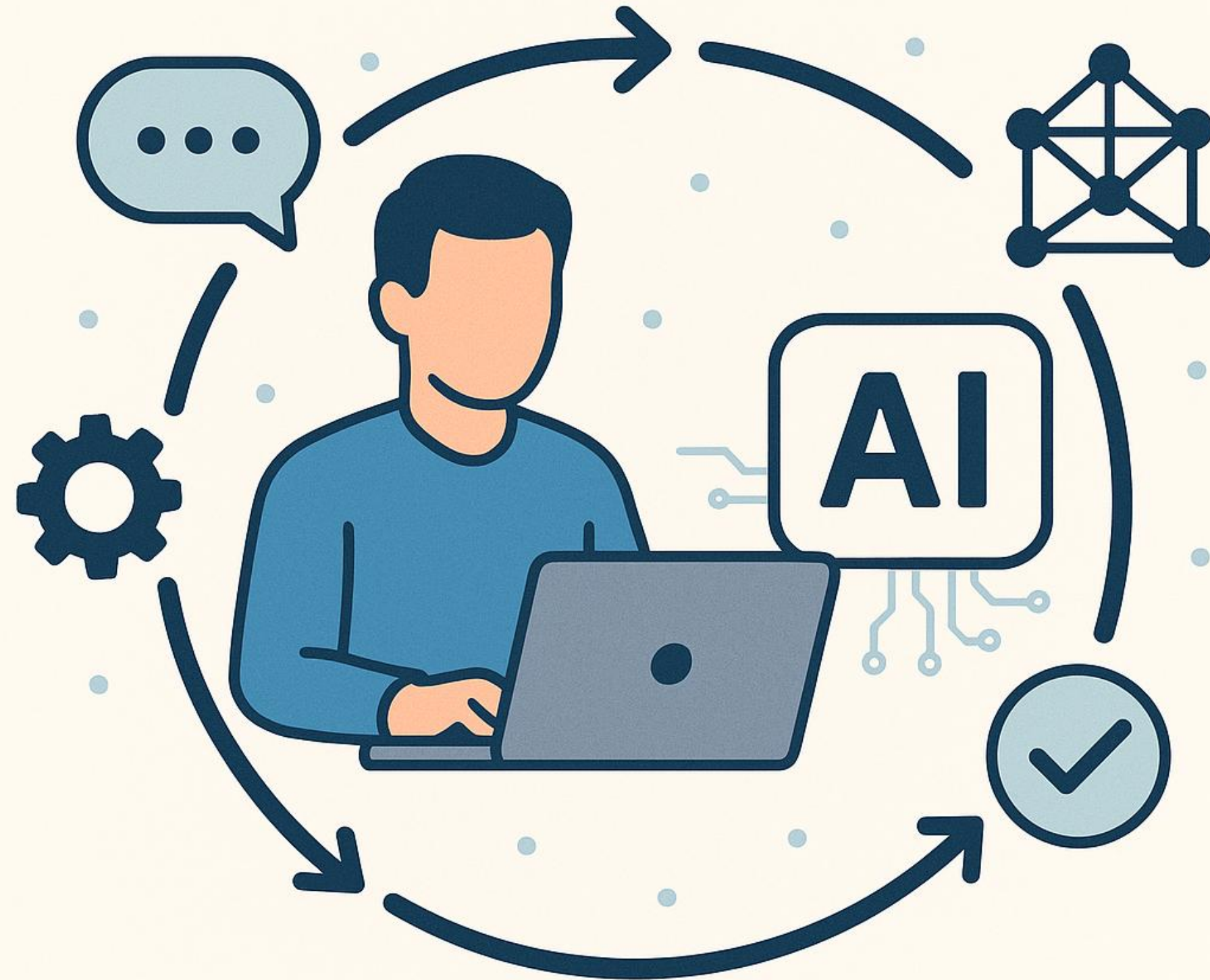
Jasper Degraeuwe – 23 oktober 2025

GenAI @ VTC

ABOUT ME

- Department of Translation, Interpreting and Communication
- PhD on **Intelligent Computer-Assisted Language Learning (ICALL)**
 $\text{ICALL} \approx \text{CALL} + \text{AI and NLP}$
- Postdoctoral researcher on **educational technologies and AI for language learning**

DISCLAIMER



HUMAN IN THE LOOP

COGNITIVE COST OF BLIND AI USE

As the educational impact of LLM use only begins to settle with the general population, in this preliminary study we demonstrate the pressing matter to explore further any potential changes in learning skills based on the results of our study. The use of LLM had a measurable impact on our participants, and while the benefits were initially apparent, as we demonstrated over the course of 4 sessions, which took place over 4 months, the LLM group's participants performed worse than their counterparts in the Brain-only group at all levels: neural, linguistic, scoring.

Bacon ice cream and nugget overload sees misfiring McDonald's AI withdrawn

18 June 2024

Share  Save 

Tom Gerken Technology reporter



Taco Bell rethinks AI drive-through after man orders 18,000 waters

29 August 2025

Share  Save 



Shiona McCallum Senior Tech Reporter



Getty Images

Meta investigated over AI having 'sensual' chats with children

18 August 2025

Share  Save 

Charlotte Edwards Technology reporter, BBC News



Getty Images

HUMAN WITHOUT THE AI LOOP

- Starting point: is use of AI necessary / beneficial?
- 30-min chat with supervisor versus 30-min chat with chatbot
- Creating graphic in Excel versus creating graphic with chatbot

GUIDELINES ON GENERATIVE AI

GHENT UNIVERSITY

- Overarching guidelines → “responsible” use is allowed
 - University: <https://www.ugent.be/genai>
 - Faculty: Ufora “[INFOSITE Faculteit Letteren en Wijsbegeerte](#)”
- ***Leerpap* for teachers and for students (updated!)**
- Onderzoeks- en onderwijstips (more *ad hoc*)
- Other workshops/courses (e.g., on UTOP)

Een **verantwoord gebruik** van generatieve AI is **altijd toegelaten tenzij** een lesgever het gebruik bij (een deel van) een taak expliciet verbiedt, waardoor die taak in een gecontroleerde setting moet plaatsvinden.

Generatieve AI aan de UGent

De UGent kiest voor een verantwoord gebruik van generatieve AI. Onder verantwoord gebruik verstaan we de volgende kernwaarden:

- **Verantwoordelijkheid en onafhankelijk handelen** – je bent en blijft verantwoordelijk voor wat je doet met de tools,
- **Eerlijkheid en kritische houding** – je checkt de betrouwbaarheid en de bron van de output van de tools, in het kader van auteursrechten, en je bent, waar nodig, eerlijk over het gebruik van de tools,
- **Respectvol gebruik** – je bent je bewust van mogelijke vooroordelen en bias in de output van de tools,
- **Zorgvuldig en duurzaam gebruik** – je zet mogelijke efficiëntie door AI-gebruik af tegenover het energieverbruik.
- **Veilig en vertrouwelijk omgaan met informatie** – je uploadt geen confidentiële en vertrouwelijke data,
- **Voorbeeldgedrag** – je leeft bovenstaande kernwaarden na en wordt zo een voorbeeld voor anderen.

Meer informatie over verantwoord gebruik vind je in het [Universiteitsbrede richtkader voor het verantwoord gebruik van AI aan de UGent](#).

FACULTY L&W

- Mandatory report for writing tasks
- Template and guidelines available on Ufora info site



OVERVIEW

OVERVIEW – GenAI FOR EDUCATION

1. Possibilities advanced tools
2. Prompting techniques
3. Retrieval-augmented generation

→ Hands-on and interactive!

OVERVIEW – GenAI FOR BAP / MAP

1. GenAI in pre-research phase
2. GenAI as part of research methodology
 - A. “LLM as a judge”
 - B. Synthetic data
 - C. Questionnaires
3. GenAI for data visualisation
4. Important observations / pitfalls

→ Hands-on and interactive!

GenAI FOR EDUCATION

1. POSSIBILITIES ADVANCED TOOLS

DEMOS

- Essay writing
 - Based on written or multimodal instructions
- Research papers (e.g., *masterproef*)
- “Study mode” in ChatGPT, “Learning mode” in Claude
- Generate notes for slides and/or slides themselves
- API (= access LLM via programming script)

CONCLUSION

- Being aware of possibilities = being able to anticipate
- Adequate evaluation methods are essential
- Useful for preparing classes / coursebook materials?

2. PROMPTING TECHNIQUES

PROMPTING TECHNIQUES

- Zero-shot prompting (= ask question without giving any additional context)

PROMPTING TECHNIQUES

- Zero-shot prompting (= ask question without giving any additional context)
- **Few-shot prompting (= add series of examples to question)**

EXAMPLES

 **You**

Give me three example sentences of no longer than 20 words that clarify the meaning and usage of the word "ubiquitous".

 **ChatGPT**

1. Smartphones are now ubiquitous, found everywhere from bustling cities to remote villages.
2. The internet has made information ubiquitous, accessible to anyone with a connection.
3. Coffee shops are ubiquitous in urban areas, appearing on nearly every street corner.



EXAMPLES



You

ubiquitous → Sentence 1: "Smartphones are now ubiquitous, found everywhere from bustling cities to remote villages." | Sentence 2: "The internet has made information ubiquitous, accessible to anyone with a connection." | Sentence 3: "Coffee shops are ubiquitous in urban areas, appearing on nearly every street corner."

nonplussed →



ChatGPT

Sentence 1: "Despite her best efforts, Jane was nonplussed by the unexpected turn of events, unsure of how to react." | Sentence 2: "The politician remained nonplussed by the reporter's probing questions, maintaining a calm demeanor throughout the interview." | Sentence 3: "His nonplussed expression betrayed his confusion at the complex instructions given by his boss."



3. RETRIEVAL-AUGMENTED GENERATION

RAG IN A NUTSHELL

- Input
 - Knowledge base
 - Prompt
- Output
 - Text / image / audio / ... that is generated using the knowledge base as the primary source

RAG IN A NUTSHELL

- Most basic and straightforward form of RAG: attach document to prompt in chatbot interface
- Most advanced form of RAG: fully customised chatbot

RAG: ADDITIONAL OBSERVATIONS

- Copyright issues
- Real-life use cases
 - Exercise generation
 - Exercise correction
 - Feedback generation
- ...

RAG: LIVE DEMO

CONCLUSION

- Useful if human in the loop
- Be aware that students can easily create custom chatbot too

GenAI FOR BAP / MAP

1. GenAI IN PRE-RESEARCH PHASE

LITERATURE REVIEW

- Elicit
- SciSpace
- Perplexity with “Academic (Search academic papers)” functionality toggled on
- Copilot / ChatGPT / ... with “web search” and “deep research” functionalities toggled on

! ONLY OPEN-ACCESS PUBLICATIONS

LITERATURE REVIEW: HUMAN IN THE LOOP

- Search Web of Science, Google Scholar, ...
- (Quick)read papers and look up relevant cited papers
- Meet up with supervisor
- Guidelines and tips & tricks offered during BAP / MAP courses

FORMULATE RESEARCH QUESTION

= GenAI as idea generator

- Ask for summary of state of the art
- Ask for research gaps
- The more concrete the starting point, the better

2. GenAI AS PART OF RESEARCH METHODOLOGY

A. LLM AS A JUDGE

A. LLM AS A JUDGE

- LLM = large language model
- Core principle = using an LLM to evaluate data instances by scoring or labelling these instances
- Typically refers to judging quality of AI-generated content, but essentially applicable to any target setting

EXAMPLE (AI-GENERATED CONTENT)

- **Question:** *Who is the president of the United States?*
- **Answers generated by LLM_1**
 - **A:** Donald Trump
 - **B:** Donald Duck
 - **C:** A white-haired, orange-faced, old American citizen
- **Prompt to LLM_2** (= the “judge”): *What is the best answer to the question and what is the worst answer to the question?*
- **Evaluation generated by LLM_2:** best=A | worst=B

EXAMPLE (RESEARCH DATA)

- **Research data instances**
 - **A:** Jasper and graphic design, a match made in hell
 - **B:** Jasper and graphic design, room for improvement
 - **C:** Simply the best: Jasper revolutionises world of graphic design
- **Prompt to LLM** (= the “judge”): *What headline has the most positive sentiment towards the subject’s graphic design skills and what headline has the most negative sentiment?*
- **Evaluation generated by LLM_2:** best=C | worst=A

WHEN POTENTIALLY USEFUL?

- Large digital dataset (text, images, audio, video) to which you want to apply time-consuming and/or labour-intensive analysis (e.g., diachronic corpus, word lists, student responses, transcriptions)
- AI can analyse huge amounts of data in very little time
→ enables you to analyse more data

“JUDGING” METHODS

- Best-worst scaling
- Pairwise comparison without reference
- Pairwise comparison with reference
- Binary labelling (e.g., yes/no, true/false)
- Categorical labelling (e.g., positive-neutral-negative)
- Numerical labelling (e.g., Likert scale)

ALSO QUALITATIVE CODING!

- Content analysis (e.g., of interview transcripts)
- Coding scheme as part of prompt
- But: if data not protected by model provider → remove personal and sensitive data!

QUALITATIVE CODING: DEMO



International Journal of Accounting Information
Systems

Volume 56, December 2025, 100754



A practical guide to implementing ChatGPT as a secondary coder in qualitative research ☆

Eva Blondeel , Patricia Everaert, Evelien Opdecam

Show more ▾

+ Add to Mendeley Share Cite

<https://doi.org/10.1016/j.accinf.2025.100754> ↗

[Get rights and content](#) ↗

The use of GenAI as a secondary coder in qualitative research

Eva Blondeel (UGent)
The use of GenAI as a secondary coder in qualitative research

PEERS & PROMPTS
AI-inspiratie voor het hoger onderwijs

Watch on YouTube

<https://www.sciencedirect.com/science/article/abs/pii/S1467089525000302>

<https://www.vaia.be/nl/opleidingen/ai-inspiratie-oktober-2025>

https://www.youtube.com/watch?v=sK_sV0dn6q4

LIVE DEMOS

- Best-worst scaling to obtain topic-based rankings
- Pairwise comparison for sentiment analysis on news headlines across time

PROMPTING TECHNIQUES

- Zero-shot prompting (= ask question without giving any additional context)

PROMPTING TECHNIQUES

- Zero-shot prompting (= ask question without giving any additional context)
- **Few-shot prompting (= add series of examples to question)**

WHERE IS THE HUMAN IN THE LOOP?

- Take subset from the dataset and apply same type of analysis but now with human participants
- Calculate correlation between human and AI judgements

B. SYNTHETIC DATA

WHEN POTENTIALLY USEFUL?

- You need more data than you can gather / than is available
- AI tool can take over part of data collection process by **generating data that is similar to reference data** or data that complies with series of criteria included in prompt
- Typically for training or testing (machine learning) models

PROMPTING TECHNIQUES

- Zero-shot prompting (= ask question without giving any additional context)
- **Few-shot prompting (= add series of examples to question)**

EXAMPLE AT VTC

- Automatically create suitable practice speeches for conference interpreting training programmes

C. QUESTIONNAIRES

WHEN POTENTIALLY USEFUL?

STEP 1

- Look for existing (validated) instruments / questionnaires
- Approach (see also section on literature overview):
combination between manual search and prompting GenAI model (*“Give me five existing, recent instruments on [...], describe how frequently they are used, and list their pros and cons.”*)

WHEN POTENTIALLY USEFUL?

STEP 2

- Generate first draft of survey questions based on your research objectives, target population, and key variables (*“Create a 10-question survey about ...”*)
- Suggest question types (yes/no, Likert, open text, ...)
- Rephrase questions
- Check if questionnaire meets regulatory requirements (e.g., GDPR)

ALL-IN-ONE FORMULA

- Qualtrics (survey tool for which UGent bought a license) is introducing AI functionalities

3. DATA VISUALISATION

WHEN POTENTIALLY USEFUL?

- Complex spreadsheet data
- Infographics / visuals
- Assistant while making slideshow presentation

WHEN OVERKILL?

- Basic pie/bar charts based on spreadsheet data
- When you can tell your story with existing icons and/or images

(NON-EXHAUSTIVE) OVERVIEW OF TOOLS

SPREADSHEET DATA

- All-purpose AI assistants (Copilot, Perplexity, Le Chat, Claude, ChatGPT, ...)
- [Julius AI](#)
- [ChartGPT](#)
- [Tableau](#) (mainly for businesses)

(NON-EXHAUSTIVE) OVERVIEW OF TOOLS

INFOGRAPHICS

- All-purpose AI assistants
- [Canva AI](#)
- [NotebookLM](#)
- [Piktochart](#) (also for [educators](#))
- [Venngage](#)

ONE STEP FURTHER

- If you have some programming knowledge
- Create single graphics / complete notebooks
- Start from your own code and ask GenAI model (e.g., Claude) to refine it or change it for other type of graph
- Ask GenAI model to write code from scratch based on detailed prompt
- **Not necessary to share actual dataset!**

4. IMPORTANT OBSERVATIONS / PITFALLS

IMPORTANT OBSERVATIONS

- Write clear instructions
- If possible, have your data labelled in the most structured way possible (CSV, JSON, ...)
- Be careful when introducing personal data into AI-tools
→ **always anonymise / pseudonymise**

PITFALLS

- Bias in models (e.g., gender bias)
- Concept of “authentic data” from online sources

WHAT'S NEXT?

UPCOMING SESSIONS

- Sessions on other phases of research
 - Research integrity
 - Data analysis
- Registration
 - <https://event.ugent.be/registration/OndersteuningGegenAanLesgevers>

RELEVANT SOURCES

- UGent page on GenAI
- Ufora info sites and *leerpaden*
- Website on AI-driven tools and resources for (language) education: <https://vakgroep-vtc-universiteit-gent.github.io/>

INTERESTED IN SUPPORT?

- Send email to vtc.aisupport@ugent.be
- Include
 - Topic of bachelor paper / master's thesis
 - Short description of envisaged research
 - In what part of research planning to use GenAI and what type of support needed?
- **Before Friday 14 November 2025**

JOUW STEM IS BELANGRIJK

- Wat vond je van deze workshop?
- Wie wil deelnemen aan panelgesprek over GenAI?
Inspiratienamiddag voor facultaire
onderwijsondersteuners op donderdag 27 november
(Nele.Kellens@UGent.be)
- Getuigenissen en concrete ervaringen gezocht om
anoniem te delen (Jasper.Degraeuwe@UGent.be)

AI is like teenage sex:

*“Everyone talks about it,
nobody really knows how to do it,
everyone thinks everyone else is
doing it, so everyone claims they
are doing it.”*

Credit: Dan Ariely

Jasper Degraeuwe

Postdoctoral researcher

DEPARTMENT OF TRANSLATION,
INTERPRETING AND COMMUNICATION

vtc.aisupport@ugent.be

www.ugent.be

 Universiteit Gent

 @ugent

 @ugent

 Ghent University