

# **RESPONSIBLE USE OF GENERATIVE AI FOR STUDENTS IN THE SOCIAL SCIENCES**

## **STUDENT GUIDE**

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Faculty-wide guide, compiled by the Faculty Working Group on Generative AI and Education  
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# 1 GENERATIVE AI: RESPONSIBLE USE

Generative Artificial Intelligence (GAI) permeates many professional domains, including higher education.

In the spring of 2024, Ghent University allowed the '**responsible use**' of GAI tools in teaching and learning activities as part of its educational policy. This policy takes into consideration the impact on student learning, the validity of the evaluation, the ethical implications and the preparation of students for their future professional roles and in society, where GAI is bound to become more ubiquitous.

Ghent University has therefore created a general UFORA-site for all students: "***Generative AI for Students: From Concepts to Creation***"<sup>1</sup>. This site succinctly explains how GAI tools work, it provides an overview of a number of tools and it explains the general principles of 'responsible use'.

This document builds on these general principles, but specifically for the **social sciences**. Here, we will mainly discuss its use in (longer) academic writing assignments. However, this document does not apply to those writing tasks in the context of assignments or modules which explicitly aim to teach students on how to work with GAI applications. In addition, while ChatGPT is, of course, one of the best-known applications, there are many other tools available. We will therefore not focus on *one* particular tool and the guidelines in this document apply to **GAI applications** in the wider sense.

In this document we briefly discuss the different phases of the 'empirical cycle'. Every student will go through this -sometimes several times- when developing his/her research paper, master's thesis or other (longer) writing tasks. We will make it clear that making use of GAI tools may be legitimate, and that, when used correctly, GAI tools may be useful throughout your research and writing process. Depending on the phase, this may mean: 'sparring partner', 'search engine' or 'aid' for analysis and writing. But we will also give advice against what is deemed to be '**irresponsible use**'. GAI output is never a 'source' in itself (this implies that you should never 'copy and paste' text generated by GAI, not even paraphrasing) and we do not yet consider GAI tools as data analysts (in other words: you still perform your data analysis by yourself!). Irresponsible use will usually lead to poor quality of your paper, which will have a major impact on your grades...

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<sup>1</sup> All students can enroll on this site. For this, go to the home page in UFORA (if necessary, first click on the UGent logo at the top) and then search for '*Generative AI for Students: From Concepts to Creation*' via 'enroll in course' (menu on the right). This site is not a formal 'requirement', but it is certainly recommended to familiarise yourself with its contents.

Finally, the world of generative artificial intelligence is evolving extremely quickly. New tools become available all the time and most tools will, eventually, generate far fewer substantive errors. In this regard, some of the warnings in this document about the quality of GAI output may appear to be a 'snapshot' in time (this document was finalised in September 2024). However, the guidelines in this document remain important and we hope that you follow them carefully when working on your writing assignments. This will only improve the **quality of your work**.

## **2 GENERATING IDEAS, FINDING DIRECTIONS**

First of all: reading books and journal articles by yourself and consultation with your supervisor will always remain crucial, even in GAI times. GAI tools are never a 'quick fix'! However, the tools are sometimes *useful* as an assistant, to help develop (creative) **ideas**.

If you are looking for an original, challenging but feasible topic for a longer writing assignment, GAI may be of some use. If you already have a general idea or topic in mind, you can ask GAI applications questions ('prompts') about all kinds of topics.

However, it is advisable not to simply start a 'brainstorm by GAI' without **prior exploratory reading of academic articles and/or books** on the initial topic. Here too, the best inspiration for theory (and methods) comes from reviewing relevant academic literature.

In addition to your orientation/reflection round on your research paper or master's thesis, you can obtain further information with the assistance of GAI applications. You may find **additional** ideas or inspiration about the following:

- Developing the research question and focusing your 'gaze'
- Assessing the academic relevance of the subject
- Assessing the social relevance of a subject
- Suggestions for (alternative) theoretical frameworks
- Literature suggestions
- Suggestions for selecting the research population or specific case studies
- Feasibility
- Methodology
- ...

When doing this, it is important is to ask increasingly targeted questions ('prompts') about the output that GAI generates. When the tool has provided you with ideas, you can continue chatting with the tool to refine, expand on, ... the generated output

Please note that it is extremely important to remain **critical**, even in this orientation phase. After all, all tools can generate (serious) errors:

- Conceptual or theoretical errors
- Selective representation of what authors actually claim
- Outdated information
- Geographic bias (e.g. bias towards the 'Global North' , ...)
- Biases in terms of gender, ethnicity, language, culture, etc.
- Factual errors (e.g. mentioning non-existent cases or non-existent literature)
- ...

In addition, suggestions for research generated by GAI applications may not be feasible or ethically desirable. A particular research idea may *seem* academically relevant, but not necessarily feasible, for example due to certain latent but real sensitivities in a population. Suggestions for research originating from GAI applications are sometimes rather **'naive'**. By applying GAI output uncritically, you may sometimes be misled and even lose time as a result. Therefore, please read all output through your 'critical lens'. And be aware that your 'critical sense' is not an inborn trait, but it can only be cultivated by immersing yourself in the academic literature of your subject.

Therefore, do discuss your ideas with the **'real' experts**, namely your **supervisor(s)** or lecturers. After all, experienced academics will have a much better understanding of 'the subject' or 'field' and 'methods' than a GAI tool. They will be able to give you advice on whether your research idea is academically sound and feasible. By this, we do not mean that you should ask your supervisor *'whether the output of ChatGPT is good enough'*! After all, whether something is theoretically relevant and feasible or not, remains something that you must first try to assess and motivate yourself *before* asking your supervisor for advice.

***Building your first brainstorm entirely or exclusively on GAI-output is a form of 'irresponsible' use!***

***As a faculty, we allow you to use GAI as a virtual 'sparring partner' as an additional source of inspiration for finding conceptual frameworks, ideas, etc. or in preparation for a research proposal.***

***Always try to remain critical and discuss your ideas in a timely manner with your supervisor(s)***

### 3 SELECT LITERATURE, BUT PROCESS IT YOURSELF

There are many advanced academic search engines among GAI tools. They will help you in the search process for academic literature for, for example, your master's thesis. Some will already give you an overview of the most current or cited papers. In addition, there are also GAI applications that can produce initial summaries of texts.

GAI can certainly be used as a search engine for suitable literature. After that, it remains up to you, as a student, to **go through this literature thoroughly and to read books, articles, ... on your own, process them on your own** and gradually develop a more synthetic understanding of the field. There are a number of valid reasons for this. These reasons are both 'technical' (concerning the functioning of the tools) and 'intellectual' (how to develop yourself as a social scientist). We briefly discuss these:

- GAI output may contain certain **serious conceptual errors**. The linguistic models that support GAI tools look at linguistic similarities and not necessarily at conceptual relevance. Thus, certain connections in GAI-generated summaries of the literature are not always accurate. Therefore, always be particularly critical when “uploading” questions, literature or sources through GAI applications. Generated content can sometimes be lacking in terms of nuance, it may be beside the point or even evidently incorrect.
- Summaries from literature or other forms of output generated by GAI applications are occasionally (literally) based on existing, real-world sources (e.g. books or articles). Thus, GAI sometimes commits “unconscious” plagiarism. Thus, if you copy and paste the output of a GAI application literally into your essay, research paper or master's thesis, you may be committing *unintentional* **plagiarism** yourself, which normally leads to disciplinary measures (as described in Art. 78 of the general Education and Examination Code at Ghent University).
- Always check all references for their 'authenticity'. Some GAI applications still 'hallucinate' and may often fabricate erroneous information or even non-existent references.
- Moreover, a major risk is not only the lack of reliability but also its strong **persuasiveness**. In general, GAI tools are programmed to write very 'nicely'. Therefore, do not let the writing style of GAI-output persuade you. Just because output comes across as 'well written' does not mean that '*it must be true!*' This is very often not the case... The sources used by GAI-tools are sometimes made up. In addition, the insights are not verified, even if the output seems written in a clear style. We continue to emphasise: it is crucial to use GAI only for those fields where you can *verify* its output. Finally, an analogy: if you are considering buying a used car, it is not advisable to let your decision depend on the seller's smooth sales talk, but rather on a very thorough inspection of the actual vehicle....
- Learning to select, process, and integrate insights from the academic literature is a crucial skill for any social scientist. Without this intellectual effort, you cannot actually “master” your own chosen field. If you have a **personal commitment to knowledge**, you should make this intellectual effort!

- As a student, you will probably have to apply the theories and concepts from the literature to a specific case, in the empirical part of your research paper or master's thesis... If you outsource all your 'reading and thinking' to tools, then the meaningfulness and quality of the elaborations, operationalisations, ... in the empirical section of your work will undoubtedly suffer, as will your conclusions.
- In addition, all longer writing tasks in our faculty are assessed not only on the basis of the submitted text, but also on the basis of a discussion, presentation or formal oral defence. If you can barely clarify your theoretical basis in a discussion or you just cannot explain *why* and *how* you arrived at a certain (apparent) "state of the art" synthesis of the literature, then the academic reader (your supervisor) will probably rightly assume that you have not (fully) mastered certain academic competencies after all. This may have serious consequences for your grades... Therefore, we stress again: by writing yourself, you **stimulate yourself to think** about the meaning of concepts and findings from the literature. This will also enable you to defend your choices better and more critically during the oral defence and you will not be 'caught out'.

In short, we consider it unacceptable to include summaries (e.g. literature reviews) that come from a GAI tool directly in your essay, research paper or master's thesis. This goes against the principles of academic integrity and transparency. After all, an (academic) reader has the right to know which ideas come from the author of the paper, and which are not the product of the intellectual labour of the person who submitted the piece of work. Presenting GAI output as one's own work can therefore be considered as 'ghostwriting'! This is such an irresponsible practice that it will have a significant impact on your marks or even lead to a 'fail'.

***GAI-applications can certainly be used in identifying current literature and as an aid to initial processing. Critical sense, however, remains crucial.***

***It is decidedly a 'bad practice' to present GAI output as the result of one's own (reading) work. Thus, pasting text generated by GAI applications into one's own literature review and literature study is certainly considered 'irresponsible use'.***

## 4 EMPIRICAL RESEARCH, DATA AND PRIVACY

At all stages of social science research, GAI may be of use. In empirical research, we allow GAI applications to be used as an **aid**.

### **Assisting with data collection:**

Here are some examples where you can use GAI applications in a very 'hands-on' manner, particularly in relation to practical aspects of your research:

- preparing questions for an interview guide for semi-structured interviews
- drafting items/questions for surveys
- drafting 'vignettes' (e.g. as a drop-off question at the beginning of an interview)
- preparation of visual stimuli or images (e.g. as part of experimental conditions)
- drafting of contact letters, consent-forms, ...
- simple translation of existing scales, interview questions, or documents to/from languages you are less familiar with (within certain limits: you do need to have notions of the language to assess whether the translation is correct. And it is advisable to use more than one translation programme... ).
- it is always strongly recommended to use existing and validated instruments (e.g. scales). However, by asking targeted questions to GAI applications, you can quickly get an overview of a range of existing instruments (validated or not).

Again, beware: do not employ any GAI output in an uncritical manner. The 'quality' of the questionnaires, letters, ... that GAI generates will depend very much on the input (prompts) which you entered. And even if the output is conceptually correct or meaningful, in many cases it will still require manual adjustments on your part (e.g. finding the right language registers in relation to the survey population and/or drafting interview questions that meet the quality criteria as discussed in class).

But these 'practical' tasks can, with due caution, be outsourced to GAI tools. This, by the way, is also done in the professional world.

***GAI applications can be used as practical, hands-on support for data collection activities***

### **Assistance with data processing:**

Much depends, of course, on what we consider as 'data processing'. As an operational, 'hands-on' tool, GAI tools may be useful for the following:



- generating software scripts that can be further adapted to perform one's own analysis (e.g. Python, R, ...)
- providing assistance in finding analysis options in the software interface of programmes (e.g. SPSS)
- detecting and solving writing errors and mistakes in prepared software scripts (e.g. debugging)
- providing information on the similarities and differences between techniques so that the researcher can choose an appropriate technique
- providing rules of thumb, conventions and other information to correctly evaluate and interpret analysis results
- provide explanations on how to correctly describe coefficients and statistical measures (e.g. how to describe an odds ratio, correlation or chi-square)
- generating possible codes/themes from a text (related more to manifest and less to latent meanings)
- generating summaries of texts (such as interviews, blogs, newspaper articles, ...)
- generating tables
- - ...

If one reads 'processing data' as 'automatically producing results', however, AI tools are less useful (for the time being) and they sometimes even **undermine academic standards and integrity**. There are some GAI tools available where you can upload your data and have analyses done automatically. The problem with these is that you usually do not get enough information to assess and check everything thoroughly. In other words, the tools are not really transparent about their working methods.

In addition, most GAI tools are trained as **language models** and not as numerical models. Therefore, quantitative analysis with GAI tools may be far from reliable, particularly when compared to language-based forms of analysis. Finally, also bear in mind that overviews or analyses of text generated by GAI tools can 'push' you into a certain direction (i.e. they can be 'leading'). GAI-tools are best only applied *after* you have first thoroughly analysed the data yourself. Since transparency in the research process is an important aspect of assessing research for quality, it is important to inform the reader (e.g. in your methodology chapter) *if, how and when* you used GAI in your research process.

### **And privacy?**

Please pay attention to privacy issues. As the **GDPR legislation** states, every respondent has the right to withdraw his/her data from datasets. If you were to upload data to a GAI tool, then this is no longer possible. In addition, respondents must be informed via 'informed consent forms' about who will have access to their data. If you were to upload data to a GAI tool then you will no longer know who has access. Therefore, uploading personal data in GAI tools is prohibited.

**GAI applications can be used as tools for very specific aspects of data processing (e.g. generating scripts for software).**

**GAI tools are not yet sufficiently robust to reliably build and perform analyses.**

**Uploading data to tools also entails all kinds of ethical-legal risks, which could violate the rights of respondents. It is never allowed to upload personal data into GAI-tools.**

## 5 ACADEMIC WRITING

All kinds of tools can assist you in writing texts on various topics. The use of GAI tools is certainly allowed as a 'writing aid', especially for:

- Checking for spelling errors
- Optimising the sentence structure
- Adapting (in)formal language to more suitable registers
- Finding synonyms
- (Re)arranging self-produced text into different paragraphs
- Finding words or phrases to reinforce argument structure and presentation logic
- General skills: project planning for larger writing tasks, such as the master's dissertation
- ...

Please note: we deliberately talk about GAI applications as writing **aids**. GAI tools cannot and should not take over the entire process of academic thinking for your paper, research paper or master's thesis! We stress that writing academically (i.e. other than the 'cosmetic interventions' mentioned above) is a crucial process for your academic development. By **autonomously organising your thoughts on paper**, you will better understand complex information and learn to look more critically at problems or phenomena.

This requires you to analyse, evaluate and summarise information. You will learn to consider different perspectives, build arguments and draw well-founded conclusions.

You need those skills in everyday life too! **In this respect, the question remains whether using the tools as a writing aid is necessarily a good idea, rather than *whether* you are 'allowed' to use them...** In short, we advise you to not become too 'dependent' on this and try to critically reflect on the textual improvements recommended to you by GAI applications.

***GAI applications can be used as a writing aid.***

## 6 SUMMARY TABLE: RESPONSIBLE USE

Activity	Responsible	Not responsible
<i>Using GAI output as an additional source of 'brainstorming'</i>	X	
<i>Developing your initial 'brainstorm' entirely or exclusively on GAI output</i>		X
<i>Copying and pasting GAI output (paraphrasing or not), e.g. in the literature section</i>		X
<i>Using GAI tools as an additional tool when searching for literature, theory, ...</i>	X	
<i>Using GAI as a hands-on tool when drafting instruments, questionnaires, ...</i>	X	
<i>Outsourcing the full analysis of texts, data, ... to GAI tools</i>		X
<i>Using GAI tools as a 'writing aid'</i>	X	
<i>Uploading personal data in GAI tools</i>		X