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ARTICLE

THE ROLE OF GENERATIVE AI FOR ACADEMIC WRITING: A RISK OF DISAPPEARANCE OF STUDENTS SKILLS? A REFLECTION IN THE FRENCH CONTEXT

O Papel da IA Generativa na Escrita Acadêmica: Há o Risco de desaparecimento das Habilidades dos Estudantes? Uma Reflexão no Contexto Francês

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RESUMO | O advento da Inteligência (IA) generativa está acarretando muitas mudanças no ensino superior. Uma das principais é a possibilidade de fornecer aos alunos ferramentas de pesquisa de informação, tradução, redação e reformulação que podem ser usadas para preparar seus escritos acadêmicos (notas, dissertações, relatórios, teses). A questão levantada no artigo é a do risco de essa assistência robótica substituir as habilidades de escrita que são em princípio esperadas de um graduado do ensino superior. O artigo identifica nove elementos das habilidades necessárias para escrever uma tese de mestrado, por exemplo (no contexto francês), e analisa como as ferramentas de IA podem cumprir esses papéis. O artigo identifica algumas das questões levantadas por essa possível transferência e conclui que a relação pedagógica precisa ser transformada para levar em conta o surgimento de uma nova relação triangular entre professor aluno IA.

Palavras-chave | IA generativa, competência, escrita, literacia acadêmica, dissertação.

ABSTRACT | The article argues that generative AI profoundly transforms academic writing and may partially displace students own writing skills, especially in the French university context. It shows that Gen AI tools can handle many linguistic and formal aspects of writing, raising questions about what remains to be learned and assessed on the human side. The article identifies nine elements of the skills needed to produce a master's-level writing (in the French context), grouped into linguistic skills and academic conventions. It shows how AI tools can fulfil these roles. For more complex tasks, such as structuring arguments or developing a coherent research problem, GenAI help is more uncertain. The article also addresses several issues arising from this potential transfer and concludes that the pedagogical relationship needs to be transformed considering the emergence of the new triangular relationship between teacher, student and AI.

Keywords | Generative AI, skills, writing, academic literacy, dissertation.

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INTRODUCTION

Generative AI (henceforth referred to as GenAI) is rapidly changing how knowledge is created and transmitted.

Higher education and research is directly concerned, and is beginning to question the ways in which these tools are received and used and impact teaching methods and assessment of knowledge (Alharbi 2023, Song & Song 2023, Holly et al., 2024, Zollinger 2024). However there is limited analysis on concrete changes in learner's writing skills. Most literature adopts a positive view of the contribution of AI to learning, particularly language learning. But research on skill development between students and AI remains at an early stage, despite the long-standing interest in human-machine interactions.

We would like to focus on the effects of using GenAI, and in particular text generators, on the writing skills of higher education students. The analysis draws on the author's experience with allophone students writing academic texts in France, mainly in social sciences and law in the last ten years.

This experience pointed us in the direction of the possibilities and dangers offered by the GenAI, which began to be used in 2023.

BACKGROUND

Academic writing remains a challenge in many countries specially in France. For many students, arriving in the first year of university is often a shock, and adapting to academic writing is a necessary but painful process.

International students with an officially validated language level (B2 or C1 in the official nomenclature), are faced with the need to write texts in French (or sometimes English) that correspond to academic standards that are not always clearly explained and often differ greatly from their previous habits (especially students who come from outside Europe and very different university cultures). A study of their early use of the Gen AI and the questions asked was carried out in Livian and Laurini (2025).

This topic of academic literacy for new students has been developing a great concern for a long time in a wide range of countries (Foster 2002, Snow and Uccelli 2009, Li Dongying 2022).

The transition from undergraduate education to University literacy is specially difficult in France, where University consider these skills as already held by the students (Donahue in Foster 2022).

But in a lot of countries also, teachers observing that new social categories arriving at universities raise the question of the reading and writing quality, comprehension, and cultural access by students not well prepared to the specificities of academia.

The question of the linguistic skills required by students undertaking higher education (including in their own language) has been raised for a long time, because of teachers' discourse about the lack of mastery of the written language and the real difficulties experienced by students themselves (Lang, 2023). As early as 1998, the problem of improving French at university was raised (Boch, Frier

2015) . According to these studies the average student arriving at university has limited written language skills and is destabilised by the new uses he or she discovers in academic writing.

It should also be noted that in some surveys in France the deficiencies observed for international students are not significantly greater than those of their national peers (Lang, 2023). This explains the abundance of literature and the attempts at complementary training that have been made in some universities, as well as the interest that didacticians researchers and teachers have shown in this subject, even before the arrival of GenAI (Boeglin 2005, Garnier and Savage 2018, Livian and Laurini 2018, Bismuth 2023, Garnier and Haas 2024).

In France there is no tradition of linguistic improvement at university (like the 'academic writing'courses in North America or United Kingdom) Requirements are often the subjects of misunderstandings between teachers and students as to the precise expectations of a particular piece of writing.

For the past three years, these needs have been directly confronted by the promises of Generative AI. Today, students are faced with a profusion of proposals for AI models which tend to present themselves as genuine research and study assistants, enabling students to achieve good university results by saving time and 'optimising' their energy. The promise is often "how to write your dissertation without effort thanks to AI"!

The main argument of this article is to examine whether Gen AI can adequately replace the writing skills expected of university students and what impact this potential replacement may have on the pedagogy of academic writing. "Writing skills" here refers to the concrete abilities needed to communicate effectively in academic contexts through written formats such as essays, notes, and dissertations

METHODOLOGY

Our research strategy has been inductive, through subject exploration and field experiments. Experiencing the possibilities and dangers of Gen AI in academic writing in 2022, we conducted five experts interviews and participated to three forums and conferences on AI (Coimbra 2024,Paris 2025, Marseille 2025) We interviewed six of our colleagues (writing coaches and professors of French as foreign language) and twelve international students (masters level in social sciences) about their use of AI .We organized five training sessions about AI and academic writing in Lyon (France) and collected information about AI use. We have identified the main academic writing offers available (for free) and tested their possible use for students in 2024 and 2025 (Chat GPT, Gemini, Copilot, Perplexity, Rytr, Quillbot, Elicit, Lateral,(disappeared in mid-2025) Consensus, NotebookLM, Thesify, Scribbr, Writefull, and Speed Write). These 14 models are not the entirety of all AI tools offered in the market, but we assume that they constitute the major part of the tools used by most of the students in France (knowing that in their interviews they speak only of the first three) We do not have information about the use in France of the others but decided to test them for discovery reasons. Mistral (le Chat) is a chatbot developed in France but we did not take it into account because of its specialization in companies needs.

During the five sessions we experienced different models in order to show the results and discuss about the advantages and limits of this use.

Drawing on the specialist literature, we will distinguish two aspects of writing skills: one is purely linguistic (therefore general in nature), the other corresponding to norms and conventions applying to academic writing, (and therefore specific to academic literacy).

For each element, we will attempt to indicate GenAI response, i.e. how one or other of the available models is capable of performing the task in question. We do not assess the actual technical quality of the response (this is beyond the scope of our article and would require extensive experimental studies).

In this article, we use the word 'model' (like LLM 'large language model') and the expression 'Generative AI'.

ANALYSIS

We will distinguish the linguistic aspects of writing and the conventions used in academic writing.

1 The GenAI and the linguistic aspects of writing

1.1 Organisation of ideas, structuring, outline

Academic writing is supposed to be well organised, which makes it easier for the reader to understand: GenAI can suggest outlines, which can be refined through dialogue (Chatbot). Most of the models also offer bounce-back questions, which can help the writer to refine his or her exploration of the subject. The proposed plans can tend to be 'standard' (or a list of points): only a fairly in-depth dialogue can enable a more suitable plan to be adjusted (the added value of AI is therefore more uncertain in this case).

1.2 Clarity of terms and concepts

It appears that GenAI have no difficulty in answering questions about the definition of terms. The Lateral, Elicit and Consensus models, for example, extract concepts from a text and can define them. The final choice between several terms is left to the writer, based on the model's suggestions.

1.3 Grammatical, syntactic and spelling and lexical language skills

The texts generated by all models are correct and the linguistic rules of French language can be explained on request. Grammarly includes a grammar checker [in English]. All the models offer reformulation or revision of an input text. The benefits can be considered significant for all users, particularly non-native speakers. For example, connecting words, which play a crucial role in articulating the writing logic in French (donc, par consequent, cependant, parce que…) (meaning

therefore, however, because…) are usually a weak point of allophone students. They are easily provided by AI models.

1.4 Tone and register

Most of the templates offer a choice of tones (Rytr, for example, offers 22). They can suggest nuances that the writer would not necessarily have access to (especially the non-native speaker).

If a tone is not specially demanded, a neutral and positive tone is always used in generated texts, (which is sometimes a way of recognizing an AI generated text!).

1.5 Argumentation techniques

The "quality of argumentation" is undoubtedly the most critical aspect in the texts written by students. It is often this aspect which is the source of the greatest number of criticisms from teachers (first for 51.8% of respondents in the Montpellier-France survey, reported by Lang, 2023).

As we know, producing an argumentative text calls on different skills from those required for linguistically correct writing (Boch, Sorba and Bessoneau 2013).

The order of the arguments, the logic of their exposition, the strength of their formulation are obviously not automatically generated by the models. However, AI can present opposing arguments on a subject. A dialogue (Chatbot) can be used to refine arguments, to improve logical connectors and modify the exposition structure.

The issue here is the length of the dialogue and the quality of the requests expressed by the "prompts". Precise work is needed on the part of the writer, who should be doing this in any case outside his or her use of the Chat. In this respect, there may be a difference between the national student and the allophone student, who may be less comfortable in formulating questions. This raises the question of how much time and relevance can be saved by the AI technology. If their use needs a long investment of time, the benefits obtained could be judged as moderate.A risk is also that the Chat using proposed questions by the AI may lead the student to derive from the central reasoning started in the beginning.

Table 1. Linguistic aspects of writing

Dimensions of competence	Typical GenAI answers
Organisation of ideas, structuring	Proposes generic plans and can refine the organization with the chatbot
Clarity of terms, concepts	Provides definitions of terms, extraction of concepts, reformulations (the student has to choose)
Language control	Corrects and reformulates automatically the text (specially useful for allophone students)
Tone, register	Offers sometimes different tones and registers
Argumentation	Offers lists of arguments, with a chatbot possibly providing generic lines of argumentation.

We therefore see contrasting results: rapid and complete automatic responses (linguistic quality, word definitions) and more randomly produced dialogue spaces (text structuring, argumentative quality).We can then raise the question of comparing generated and purely human texts. Drawing on our experience, we will say that the AI generated texts appear as more regular in their structure, with repetitive transitions. The vocabulary is generally neutral and impersonal. The enumeration of elements uses frequently bullet points. The argumentation line is classical, based on general ideas and is not likely to propose new ideas or breaking points.

Therefore, the net gain in quality or time provided by the use of Al seems to be variable and largely dependent on the student starting level and the quality of the dialogue established through the Chatbot. For the argumentative part, we assume that an interaction with a competent human participant (a teacher) may be more useful than any use of AI. We think also that a student wanting to obtain high grades will have to propose ideas and writing significantly better and more innovative than the generated text.

2 The GenAI and writing standards and conventions

The quality of student writing is also judged by its compliance with the usual rules or general standards handed down by the university institution.

2.1 Presentation of the data collection methodology

The writer can call on the GenAI with the results depending on the dialogue established.AI models are able to present a methodology using technical terms. In the case of quantitative research, there may even be a link with pre-existing data analysis softwares. Then the model can provide a commentary of the data processing used.

2.2 Use of sources

The GenAI can summarise an article or report (eg. Perplexity), extract concepts and data and produce summary tables. It can offer a paraphrase of the texts used by the writer (NoteBook LM, Spinbot (3 types). Quillbot (7 types) with alleged guarantee “that it is not plagiarism”. “Literature reviews” are produced by specialisted models but also by Perplexity and others. Some models provide tables, diagrams, lexical networks and citation networks. The contribution of GenAl for documentary search can be very significant (this theme will need a specific study)

2.3 Presentation of references and establishment of the bibliography

The GenAI, in addition to reference management softwares (Zotero, End Note, Mendeley, for example) automatically generates citations and bibliographies according to the required standards

2.4 General formatting

A text can be reformulated and proofread. AI models such as“Humanizers” can be used also to provide texts that do not appear to have been generated by an AI . Plagiarism detectors are also available.

All in all, in this area, the possible response of the GenAI is potentially complete and performs many tasks in place of the writer.

Table 2. Standards and conventions of academic writing

Dimensions of competence	Typical GenAI answers
Presentation of methodology and data collection	Proposes general presentation of standard methodologies
Use of sources	Offers automatic generation of article summaries, and paraphrases of texts
Presentation of references, bibliography	Generates automatic presentation according to desired international standards
General formatting	Offers corrections, rewording, revisions, translation, and alleged humanization, plagiarism detection, Al detection

DISCUSSION

As we you can see, the GenAI range of services is broad and precise, and can be of great interest to all students, national and non-national. It is constantly renewed and specialised (academic, professional, marketing, posts, etc.). For some tasks, it replaces the writer (linguistic correction, reformulation, summarizing, paraphrasing, presentation of references); for others, it proposes solutions that are more or less adjusted according to the quality of the ‘prompts’ formulated by the writer (and of course according to the richness and appropriateness of the texts digitised in the templates and the subscription price paid by the ‘client’).

The GenAI therefore provides really a very wide range of assistance. Sales pitches claiming “have your dissertation written by AI” are misleading (or imply payment for a “ghost writer”). But on the other hand, to go on teaching as if students had not automated writing tools at their disposal would be completely illusory (for example a solid and recent book such as Garnier and Hass 2024 on academic writing contains surprisingly no reference at all to AI tools!).

Moreover, we can’t help but be struck by new models specialising in academic matters, which carry out a range of tasks to aid research, and the presentation and writing of scientific texts. For example, Thesify (launched by a Swiss academic), whose commercial argument is based on the frequent unavailability of teachers to correct academic texts and the general lack of any real training in writing for students (especially in the natural sciences). Why not use a revision tool for preparing the paper before sending it to the professor (or doing a pre-submission examination of a scientific article)?. Confronted with a draft text (including in French), the model summarises and analyses the problem, suggests complementary subjects and sources and gives recommendations for improving the draft. It looks like a quasi-scientific evaluation of a draft text.

Whenever a human being is assisted by a machine, this assistance raises the question of redefining the skills involved in this interaction: how much human skill is delegated to the machine?

What remains if the machine is used systematically? What role can human learning still play if the corresponding skills are externalised?

Some will reply that, as it has already been done in other cases, human beings must shift their skills to those of knowing how to use the machine. This would imply a complete delegation of writing skills to the machine. So, does the skill of writing condemned to be reduced to formulating 'prompts" ?

First a complete externalisation of the skill would run the risk of obliterating a large part of the basic mechanisms of language learning in general. In particular, one of the mainsprings of pedagogy, the understanding and correction of errors, would disappear in a large part. The dialogue between the writer and the machine, and the back-and-forth improvements that can be made with certain models, can be learning opportunities. But this may change the usual roles of the teacher (as trainer and assessor). We would have to create a new kind of interactions between not two but three parts of the teaching: the students, the tools and the teachers.

A second remark is that specialists insist on the link between academic writing and the formulation of thought. "Writing cannot be reduced to an alphabetical or ideographic system, but fulfils essential functions in the development of thought" (Faure 2011 p. 22). So to outsource writing thanks to GenAI would consist of denying ourselves the opportunity to reflect on the very content of what the writer wants to express, and thus to abandon any reflexive process. It would be to confuse, as Sadin (2023) puts it, "an uninterrupted series of clicks with the process of knowledge" (p. 226).

"Just as know-how has been outsourced in the form of machine automation, how to think may be outsourced in the form of digital automation" (Alombert,2025, p. 22).

Of course, there may be 'formative' feedback, as proposed by certain models, but the 'scientific' value of the machine's responses is not assessed by anyone...

It is quite likely that this balance between the three partners will have to be modified in the future depending on the uses of GenAl and the rules laid down by the universities. In the case of France, they are currently not very expressive in this area. Seminars have been organized, but a systematic training is still to be expected. Anyway teaching methods, including support methods, will have to evolve constantly in the future and will need a massive effort.

CONCLUSIONS

The aim of the previous analysis was to distinguish between writing skills that can be transferred to the machine and those that cannot, or are more difficult to transfer. The tables shows the quantity and variety of the generative offer, and potentially its effectiveness in helping students to produce their writing.

Faced with this observation regarding academic writing, as with the other possible contributions of the GenAI to professional writing, it is possible to adopt a widespread attitude of fear consisting of limiting or even prohibiting the use of these technologies. The insistence on the limits and the search for a reasoned and ethical use of GenAI would, according to some, be no more than culpable "complicity" in an existential danger for humanity (Sadin 2023).

But our position is rather to try to clarify the potential benefits and risks of these tools, so as to open up the vast field of educational and institutional responses needed to deal with a phenomenon that may be considered inevitable.

These tools can in fact be used in a way that is conducive to learning, in a new pedagogical context (discovery of linguistic rules, vocabulary enrichment, comparative analysis of texts, etc…).

There are already examples of innovative teaching methods, integrating Gen AI in their pedagogy: such as comparing the results of different models, criticizing the sources, prompt improvement learning, oral confrontations of positions or theories, testing AI answers to case studies, etc. AI models can also lighten non-rewarding tasks (some translations, corrections, formatting, etc.). The obligation to clearly state their use should already satisfy the necessary transparency that the reader of any academic text is entitled to expect, and this transparency is in line with the recommendations of the European Union (March 2024), and the UNESCO guidelines on AI (2024). Precise forms of citation for the use of GenAI are now established, for example by APA standards (7°ed.), and specific suggestions for indicating the proportion of text generated in the document as a whole have been made by Canadian and Swiss universities. Guides for students are proposed. This observation is in line with the conclusions of research centres, such as INRAE in France (8,000 researchers in agricultural and environmental fields), which admits that Al models contribute to increased productivity and "save time on repetitive tasks (document summaries, development of computer codes, etc.) or long and specialised tasks (reformulation, popularisation of complex texts)". However, this institute also sets out precisely the conditions for using and quoting this method (INRAE 2024).

The risks associated with widespread, unregulated use of AI are considerable: the texts produced could become anonymous, flat and standardised. The French philosopher A. Alombert goes so far as to speak of the "industrialisation of insignificance" (2023). Widespread and unchecked use does not prepare students to acquire the capacity for reasoning and formulating an original expression, which is supposed to be one of the objectives of a university education throughout the world.

The clarity and acuity of thought, the convincing nature of arguments, the quality of data interpretation, the solidity with which a position is defended are all elements of a sometimes lengthy intellectual apprenticeship, which requires other means than mere automated dialogue. There is a strong need to develop a human interaction in teaching, which includes comparison, confrontation, critical analysis in a dialogic way. If we do well, AI tools could be an opportunity to shift to another pedagogy in higher education. But this assumes that an enormous investment is devoted to this move, and it is not sure that educational institutions are ready for that.

BIBLIOGRAPHY

Alharbi W. (2023), Al in Foreign Language Classroom: A Pedagogical overview of Automated Writing Assistance Tools, *Education Research International*, 4253331 https://doi. org/101155/2023/4253331.

Alombert A. (2023) *Panser la bêtise artificielle*, Appareil n° 26 (Thinking artificial non-sense).

Bismuth H. (2023), *La maitrise de l'écrit dans l'enseignement supérieur*, Ed Université Dijon (Mastering writing in Higher Education).

Boch F., Frier C. (dir.) (2015), *Ecrire dans l'enseignement supérieur*, VGA Grenoble (Writing in Higher Education).

Boch F., Sorba J., Bessonneau P. (2016), Evaluer les compétences rédactionnelles : que tester ? *Le Français Aujourd'hui*, 2, (193). 129-142.(Evaluating writing skills : evaluate what?).

Boeglin M (2005) *Lire et rédiger à la Fac*, L'Etudiant (writing and reading in University).

Donahue Ch (2022) The Lycee-to-University progression in French students development as writers in.Foster D, Russell D (eds)(2022) *Writing and Learning in Cross-National perspective*, Routledge.

Faure MF (2011) Littéracie: statut et fonction de l'écrit *Le Français aujourdhui*, 3, (174),19-26 (literacy; status and function).

Garnier S, Hass P. (2024), *Rédiger un mémoire de recherche en français*, Ophrys (Writing a research report in French).

Garnier S, Savage A. (2018) *Rédiger un texte académique en français*, Ophrys (Writing an academic text in French).

Holly M., Shetsova M., Forestier G. (2024), Digital transformations: how to teach with GenAI in higher education, *Etudes et Pédagogies*, doi.org/1020870/ecp.2024.8100.

INRAE (2024) Recommandations pour l'usage de l'AI générative comme assistant personnel. (Recommendations for the use of Gen AI as personal assistant)

Lang E. (2023), Comment les enseignants de l'enseignement supérieur appréhendent-ils les difficultés étudiantes dans le cadre des littéracies universitaires ? *Action Didactique* 6, (2). 135-152. (How teachers understand students difficultes in university Reading and Writing).

Li Dongying (2022) A review of academic literacy research development from 2002 to 2019 *Asia-Pacific Journal of English Language Education*,7 (5).

Livian Y.F, Laurini R (2025) L'utilisation de l'IA pour la rédaction académique en français par les étudiants allophones: l'expérience de CPU Lyon in Bergadaa M, Peixoto P (coord) *Réinventer l'intégrité académique à l'ère de l'IA*, EMS (AI use for academic writing by allophone students in france).

Livian Y., Laurini R (2018), Success in preparing masters or thesis dissertation.A guide for international students, Campus Ouvert.

Livian Y, Laurini R. (2019) *How to prepare a successful master's or doctoral thesis in France.* Grenoble, Campus Ouvert (in English).

Livian Y, Laurini R. (2025) The use of GenAI for academic writing in French by allophone students, in: Bergada M, Peixoto P. *Academic integrity in the era of AI* (in French) EMS..

Livian Y. (2024) *Utiliser l'IA de manière raisonnée et éthique*, Communication CERGES conference, Université de Yaoundé, Cameroun, July 29–30 (in French).

Macquart H, Azeez (2024) Unlocking the power of AI in academic writing A practical guide *The Language Teacher* 46 (6).

Sadin E. (2023), *La vie spectrale. Penser l'ère du métavers et des IA génératives*, Grasset. (The spectral life. Thinking in the era of metaverse and AI).

Silva , A. de O., & Janes , D. dos S. (2023). Artificial Intelligence in education: What are the opportunities and challenges?. Review of Artificial Intelligence in Education, 5(00), e018. https://doi.org/10.37497/rev.artif.intell.educ.v5i00.18

Snow C, Uccelli P (2009). The Challenge of Academic Language. In Olson DR, Torrance N, (Eds) *The Cambridge Handbook of Literacy*. 112-133 Camb. Univ. Press,

Song C., Song Y. (2023), Enhancing academic writing skills and motivation: assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students, *Frontiers in. Psychology* 14, 1260843 https://doi10.3389/psyg.2023.1260843.

Thesify.ai (s.d) *Teaching ethical ai in academic writing* / https://thesify.ai/blog/teaching-ethical-ai-in-academic-writing-a-guide-for-professors-and-students.

Zollinger A. (2024), L'utilisation académique d'IA : vers une réponse juridique ou éthique ? *Les Cahiers de l'IRAFPA 2*, (1,) doi.org/1056240/irafpa.com/v2/2ol. (Academic use of AI: a legal or ethical response?).

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