

# Exploring the use of Gen-AI by International Students in France

Robert Laurini

Coup de Pouce Université, Lyon, France  
Robert.Laurini@liris.cnrs.fr  
IARIA Member

Yves Livian

Coup de Pouce Université, Lyon, France  
yves.livian@gmail.com

**Abstract**—Today, many students smartly use generative artificial intelligence to help write their dissertations, either Master or doctoral. Concerning students who do not have a good command in English nor in French, it is often difficult to write prompts and to understand answers. So, they have to juggle between several languages. In this paper, we will examine their strategies to reach the desired results, overall from languages for which corpora are reduced and avoiding sophisticated words. Their strategies can be characterized as iterative and multilingual with a multi-bot approach. We will conclude by giving with some recommendations when using Gen-AI and some suggestions for chatbots developers.

**Keywords**—component; Generative AI; Gen-AI; Chatbots; International Students; Dissertations; Cultural differences.

## I. INTRODUCTION

CPU-Lyon (Coup de Pouce Université) is a non-for-profit organization whose goal is to help foreign university students in their studies. Located in Lyon, France, CPU has around 300+ international students coming from 68 countries accompanied by 142 volunteers teaching them French as a foreign language (levels A1, A2, B1, B2, C1, C2) [1], accompanying them in writing their Master or doctoral dissertations and receiving them in families.

In this paper, we will only focus on international students who have to write a dissertation.

The role of volunteers is not to replace that of dissertation supervisors but, beyond the correction of French is to ensure that the characteristics of this particular literary genre are well respected. They must thus verify the correct writing of research questions and assumptions, the coherence of the state of the art, the adequacy of the chosen methodologies, the good presentation of references, etc. Typically, the student meets the accompanying volunteer 2 hours per week.

Facing this aspect, essentially because of the paramount importance of cultural differences, a research program was launched at CPU-Lyon to analyze how international students use generative AI (Gen-AI) chatbots not only to write their dissertations, but also to write preliminary reports. For that purpose, it was decided to organize interviews and the objective of this paper is to present the results.

So, the aim of this paper is to describe the strategies used by international students to achieve their objectives, and also to offer some suggestions for them and for chatbot developers. But before, it looks necessary to remind some characteristics of international students. Table I shows the origin of international students at CPU.

TABLE I. ORIGIN OF INTERNATIONAL STUDENTS AT CPU AS OF JUNE 2023. COUNTRIES WITH LESS THAN 1% ARE NOT LISTED.

Continents	%	Some origins of students
Europe (14 countries)	16%	Albania (4%), Spain (2%), Ukraine (1%)
Far East (12 countries)	37%	China (19%), Taiwan (3%), South Korea (2%), Japan (3%), Vietnam (5%), India (4%)
Middle East (11 countries)	16%	Afghanistan (6%), Iraq (1%), Iran (4%), Syria (4%), Saudi Arabia 2%, Lebanon 2%
Africa (19 countries)	14%	Algeria (2%), Soudan (2%), Egypt (2%)
America (11 countries)	14%	Brazil (2%), Colombia (4%), Mexico (2%), Peru (1%)

*Mutatis mutandis*, we think that the results of this study can be interesting for foreign students in other countries such as USA, UK, Germany, etc.

## II. GEN-AI AND ACADEMIA

Now, since the advent of generative AI, the problem of helping students is now changing [2]. Of course, the total generation of a dissertation is not tolerated in many doctoral schools' codes of conduct, but the "intelligent use" of AI is accepted [3].

Since the problem is recent, apparently few studies have done concerning university students. For instance, a study made in Hong-Kong [4] shows that the results show that students recognized the potential for personalized learning support, writing and brainstorming assistance, and research and analysis capabilities. However, concerns about accuracy, privacy, ethical issues, and the impact on personal development, career prospects, and societal values were also expressed. More generally, the Russell Group [5] has pointed out five principles: (i) Universities will support students and staff to become AI-literate; (ii) Staff should be equipped to support students to use generative AI tools effectively and appropriately in their learning experience; (iii) Universities will adapt teaching and assessment to incorporate the ethical use of generative AI and support equal access; (iv) Universities will ensure academic rigor and integrity is upheld; (v) Universities will work collaboratively to share best practice as the technology and its application in education evolves. See also [6].

According to [7], while artificial intelligence is of high interest in higher education, ethical and critical reflection on the issues it raises in this particular context is less advanced,

so that “technical application” and “ethical and critical reflection” are not well secured at present in academia.

Moreover, a university [8] gives a list of dos and don’ts when using Gen-AI tools. For dos, it mentions use GenAI for brainstorming, check for factual accuracy of AI-generated content, use AI-generated content in conjunction with other sources to ensure that the work is reliable and well-informed, and include any GenAI assistance in the reference list; and for don’ts, do not rely solely on AI-generated content as the source of information, do not ask GenAI software to write your essays, do not input any personal details or confidential information when using GenAI tools.

However, sometimes chatbots deliver misinformation, fake news and hallucinations which are inserted into answer or portions of answer out of concerns.

Several studies concerning teaching a foreign language, especially English in China [9]: the results support the notion that AI-mediated language instruction holds promise in revolutionizing language learning, and it highlights the positive impact of AI-driven educational technologies in the realm of language education. Whereas [10] shows that quantitative analysis reveals significant improvements in both writing skills and motivation among students who received AI-assisted instruction compared to the control group.

Moreover, several universities host international students who have specificities. Table II gives the number of international students: those numbers come from Google Gemini and are of 2023.

TABLE II. TABLE SHOWING THE TOP 10 COUNTRIES WITH THE MOST INTERNATIONAL STUDENTS, BASED ON 2023 DATA. SOURCE: GOOGLE GEMINI

Country	Number of International Students	Country	Number of International Students
USA	914,000	UK	605,000
Canada	551,000	Australia	489,000
China	492,000	Germany	355,000
France	348,000	Japan	312,000
Russia	300,000	India	246,000

Regarding international students, a study [11] in South-Korea is targeted to the use of Gen-AI for helping them together with academics in their daily lives in the campus, but not targeted to the assistance in their studies.

In addition, another paper [12] dedicated to international students illustrates problems and challenges considering only some minor cultural differences done in a very superficial manner. However, the authors insist on the fact that using a chatbot allows international students to maximize their learning potential and stay on track with their studies, even with limited access to their professor due to language or cultural barriers.

### III. SOME SPECIFICITIES OF INTERNATIONAL STUDENTS

International students are characterized by three types of barriers, linguistic, cultural and linked to technology access including Internet. Let us begin by technology access.

#### A. About barriers concerning technology access

Some international students originate from countries with high technological environment where computerized work is already commonplace (therefore with a potential openness to AI). Conversely, others have very limited use of computers, because of problems of network connection and energy availability (Africa, part of Middle East).

The diffusion of Internet is variable according to languages. Table III gives the percentages of website in the world ranked by languages, but slightly differently percentages are given in [13], nevertheless the ranking is similar. With this table, one can easily see that English language is predominant whereas Chinese and Arabic languages, even if the number of locutors is very high, the relative percentage of websites is very low. In other words, the distribution of website does not correspond to the distribution of spoken languages.

TABLE III. PERCENTAGE OF WEBSITE RANKED BY LANGUAGES. THE SUM IS GREATER THAN 100 BECAUSE SEVERAL SITES HAVE VERSIONS IN DIFFERENT LANGUAGES. SOURCE: MICROSOFT COPILOT.

Language Name	Number of Speakers	Website Percentage
English	1,500,000,000	55.5%
Mandarin Chinese	1,100,000,000	2.8%
Spanish	460,000,000	4.9%
French	280,000,000	4.1%
Arabic	310,000,000	3.3%
Russian	258,000,000	0.8%
Portuguese	220,000,000	2.6%
German	90,000,000	2.0%

Concerning international students who do not have good commands neither in English nor in French, they can face difficulties not only to get information in their own native language, but also to run systems based on Gen-AI. For instance, this is the case for Albanese, Estonian and Finnish students for which usual automatic translators are not provided.

#### B. Linguistic Barriers

Among the linguistic barriers, let us mention the levels of French and English languages but also the fact that in their native language some concepts do not exist. Indeed, they often speak without fully grasping the nuances between different language registers: formal, informal, addressing superiors, slang, and even scientific, or professional registers. We can also add the more recent one, which pertains to conversing with a conversational AI such as a chatbot. Not to mention occasional mixtures of French with English.

Moreover, it has been observed that, for them often unlike young children, reading is easier than speaking.

Indeed, when faced with reading difficulties, a doctoral student can consult a dictionary, whereas rarely in oral communication they dare to ask for explanations about specific words. While listening, especially in lectures, they might confuse one word with another, or get lost because of the so-called “false friends” between the language of the lecturer and their own language.

In addition, one of the specific rules in French rhetoric dictates to avoid repetition, which necessitates finding equivalent expressions or even using circumlocutions. In contrast, in other languages like English, this rule is absent. Let's take the example of King Charles III of England. One might have a sentence beginning with the British sovereign, another with "His Majesty", and later mention Elizabeth II's son, Camilla Parker Bowles's husband, the head of the Commonwealth, the former Prince of Wales and so on. Ignoring these variations, one might mistakenly believe they are dealing with multiple individuals when, in fact, it is the same person.

Let us apply a similar reasoning for scientific or philosophical concepts, as a consequence a doctoral or Master student is totally lost when reading a text in French language or listening a lecture.

Another aspect is that in France, some so-called English words or expressions have no meaning at all in English so to perplex students (for instance “parking” for car park, “smoking” for dinner suit or tuxedo, “chips” for crisps, “break” for estate car or station wagon, “footing” for to jog or to run, etc.).

### C. Cultural Barriers

For instance, when trying to quickly comprehend a Buddhist text, you do not understand anything if you have not been introduced to these notions very far from our Greco-Latin and Judeo-Christian civilization!

By definition, culture encompasses the customs, beliefs, language, art, and practices shared by a group of people. It defines their collective identity and shapes their way of life, i.e. the relationships with humans, with nature and with knowledge. So, international students are shaped according to their home culture whereas they have to acclimate to the culture of the country in which they study (here France). In addition, some of them must face a third culture for writing their dissertation (for instance English).

Indeed, for all foreign doctoral students, the situation is common where they encounter difficulties in understanding new concepts and notions.

Another barrier comes from the various educational backgrounds those students have received with different program and methodologies even in disciplines such as engineering and medicine.

Styles of learning are different among the societies, and it may have a strong impact on the way students use AI.

1 – For example, there are countries where learning is strongly teacher-centered, with few interactions and weak possibilities of exchange (Middle East, China, Japan). It can be assumed that the dialogue function of the chatbot may not be easily used. In other words, students originating from this culture will accept chatbot's answer without challenging the

validity of the answer and then will have difficulties to structure a dialog.

2 – In other cases, learning is mainly obtained by problem-solving and case discussions (North America, part of Europe) for which AI could be a positive tool if students are trained to use it that way.

Styles of learning are also different according to individuals, as the extensive use of Kolb's Learning Styles Inventory [14] proves it. People preferring conceptual abstraction, or reflexive observation, for instance, could have distinct AI strategies (further research is needed on that topic).

### D. Other barriers

There are other barriers which have a great importance for international students, but with minor impact on Gen-AI. Let us rapidly detail few of them.

Both in English and French, sometimes some Latin expressions are used; even for Spanish-speaking students, due to the different pronunciation, they have difficulties to understand.

From Greek and Latin mythologies, from Bible and Christianity, some allusions are not well understood by most Asiatic students.

In some Gen-AI answers, some stereotypes have been discovered. For instance, all French people are supposed to wear berets, lazy and prone to strikes.

The so-called “politically correct” generates circumlocutions which are not immediately understood by international students.

Among additional difficulties, one must consider some expressions from literature and history. For instance, Waterloo is seen as a disaster for Frenchmen whereas a victory for Englishmen. See also issues linked to colonization viewed differently from colonizers and local people.

## IV. METHODOLOGY

To explore the various strategies carried out by CPU international students, we decided to make interviews. A preliminary informal guide was designed with some questions relative to their discovery of those tools, their usage for different purposes, their difficulties and their opinion concerning ethical issues.

Please mention that all the following interviews have been made in French, and then the results were translated into English for this paper.

### V. SOME INTERVIEWS AND STRATEGIES

Based on the previous guide, twelve students were interviewed. The answers span from two extremities:

1 – Strict ethical position; *by principle, I don't want to use Gen-AI because this is cheating and plagiarism, and the produced text is not mine.*

2 –Towards AI-augmented humans: *I can no longer live without chatbots because they are a valuable help to me.*

However, many students have visions less radical than the previous ones. Let us detail a few of them. For privacy

reasons, the first names have been changed. See Figure 1 for the geographic distribution of interviewed students.



Figure 1. Origin of interviewed students.

#### A. Francisca's case

Francisca is a Venezuelan student in economics and has to write her master's dissertation in English, but the *viva voce* exam will be in French: she juggles between Spanish, English and French. For this purpose, she uses several tools. Listen to her!

##### 1) Text understanding

"The first aspect is the comprehension of texts (C1 level), especially in English, texts that I must study for writing. If I stumble on a word, I use Linguee or Reverso; if I stumble on a sentence or a paragraph, I use rather translators like Bing translator, Google translate. Depending on the case, the target languages are French or Spanish."

##### 2) Understanding of sophisticated concepts and words

"I use Gen-AI products to understand certain concepts by being aware that often the French and Spanish concepts are neighboring while those in English are a little different. Depending on the case, I start from the concept in English or Spanish and try to draw satisfactory explanations, and therefore I start a chat with ChatGPT or Copilot. If necessary, I change language. Whenever the answer uses sophisticated words, I ask to have them replaced by more common words. Sometimes when I am hesitating about French verbs, I run conjugation software."

##### 3) Help for writing in English

"Sometimes I write directly in English. If I am not satisfied, I ask either for polishing my text or for a complete reformulation until the result suits relevant. When I am less sure of the quality of my own English, I write a paragraph in Spanish, then it is translated into English: I check every time whether the translation is correct, without wrong interpretation. In doubt, I launch a re-translation into Spanish as insurance. In other words, I run a sort of multilingual discussion."

##### 4) Oral assistance in French

"In order to prepare my *viva voce* defense in French, I use the possibilities of generating abstracts and hears the results be prepared especially when I am hesitating about the pronunciation of a word in both for French and English,

In addition, I use the functionality to generate slides."

#### B. Sepideh's case

She is an Afghan student in finance. She wrote her Master dissertation in English.

##### 1) Corpus of languages

"I speak several vernacular languages of Central Asia, but these languages are unknown to translators and generative AI systems because they are characterized by too few speakers listed on the Internet, in short, too small language corpora to base deep learning. I also juggle between languages to arrive to texts corresponding exactly to what I want. Moreover, I have sometimes difficulties because my native language does not have certain concepts."

##### 2) Confidentiality

"Coming from a country where the place of women is absent, I am mainly concerned by confidentiality. Indeed, as these AI systems use other conversations for their learning, I fear for my freedom of expression. Thus, to improve the presentation of my CV in English, I decided not to use deep learning systems."

#### C. Dimitri's case

Dimitri is a Russian student of fine arts. "I have a poor command of French (B2) and very poor English (B1). I am wary of Gen-AI systems because they sometimes deliver totally or partially false information. When I stumble on a word or phrase, I look for synonyms or quotes using them. In addition, I use chatbots to polish my French and English, and to understand grammar.

For my bibliographic search, once I received two references, say Author#1, Title#1, and Author#2, Title#2. After checking, I discovered that the reality was Author#1, Title#2, and Author#2, Title#1: the titles had been reversed! So, having found that references were fanciful or absent, I prefer the classic way of search engines (Google, Qwant, Duckduckgo, etc.) by adding keywords.

Due to my low level in French, I am afraid of writing my dissertation."

#### D. Lee's case

Lee is PhD student from South Korea, often using the assistance of Gemini, as suggested by a Korean professor.

"I mainly use Gen-AI to correct mails. The French people I know do not have time to brush my texts. Gemini proposes corrections and explains its propositions, it is very useful (generally better than ChatGPT)."

##### 1) Reformulation of sentences

"I do not want always to ask Gemini to correct or reformulate a complete text, because it will not be my own text. But sometimes I integrate a paragraph judged relevant. Anyway, my supervisor will read my text and correct it from the point of view of the ideas."

##### 2) Bibliography

"For example, when I am requested to read a book about an author, I search immediately his/her bibliography, or I ask Gemini about the meaning of some concepts. I do think this is very useful, but a check is necessary because of many errors."

### 3) *Quantitative analysis*

“When I have to make a quantitative analysis by means of another software product, and I desire a comment, or if there is an error, I ask Gemini by pasting the error message and it answers.”

### 4) *Legal information*

“Since my doctoral subject concerns legal information, I consider Gemini very useful.

Finally, I have decided not to write completely my dissertation with Gemini, for the reason that I want to write my own personal text. Anyway, I consider that if I am not the author of the text, and my professors will discover it! Indeed, I believe that it looks very easy to detect whether a text is written by Gen-AI. Is it a fraud? I guess it is possible to discover if the text has been made with the assistance of Gen-AI and for the researcher, there is a question of honor!

There was no training about AI in my origin university, no payment of subscription for AI, everybody deals with that individually.

In conclusion, I am optimistic about AI because it will provide a lot of services, and the market competition will maintain low prices.”

### E. *Wei's case*

Wei is a Taiwanese student at Master level, studying French literature. “I frequently use Chat; it answers to question and writes texts. Once I gave a report to my supervisor, but she said that there were paragraphs off topic. So, she discovered that I used a chatbot! Sometimes, Chat gives ideas not in accordance with the subject. Now, I always tell whenever I am using Chat.

Now my professor has integrated Chat in her course. Sometimes, she gave us the text already written by Chat and ask us to improve it. Very difficult! Because the students must examine the logics, the argumentation, the articulations, the examples...

I guess that the professors are going to give the students exercises that Chat is unable to make! For example, to combines four different texts!

My professors demand the students to tell when using Chat.

In literature, it is more difficult to cheat with AI (question of style, sensitivity...)”

### F. *Ali's case*

Ali is a PhD student in sociology from Guinea-Conakry. “I don't use Chat and the others. My wife neither. My supervisor agrees with me to do a doctorate without any artificial tool. I don't need any translation or adaptation since I am francophone.

The thing I fear the most is to produce a text which will not be really mine. I understand that these tools can save some time. I am sure that they will be used in Africa. But I fear that AI will replace a real reflection. Research is a craft and must remain it.

Of course, I am not opposed to use some modern tools (database resources, perhaps computerized data analysis). I will need written transcription of my interviews, but I will discuss this aspect with my supervisor.

Surely it will induce strong change in learning methods.

I am not afraid of frauds and cheat. The professors will easily detect a text which has been written by AI. And the universities are implementing ways of regulating the use of AI.

For Africa, the use of AI will raise a lot of problems: cost, energy, network availability...”

### G. *Luisa's case*

Luisa is doctorate student, from Brazil.

“I discovered Chat thanks to a (French) friend. I was always asking him to revise my French texts, and he said that Chat will do that very well. I have been amazed: corrections, revisions, reformulation...it works well.

So, my main use is for daily mails. I use Chat as a secretary (I don't use Gemini or the others). It proposes answers to my mails, I can ask it to change its tone etc. I can't live without it by now...it is my companion. The only restriction is the possible contrast between my way of French speaking and my text (if I meet the person to whom I have written). I use chatbot intensively, it answers as if it understood, I reply etc.

I use it also for answering questions.

For my thesis, I will use it but anyway I will make the text read by a francophone. Finally, he will understand the content and propose better formulations than Chat. In the research world, everybody uses it, but nobody speaks about it.

I am using it, but I am not optimist for the future. For images, there will be a lot of possible cheats. For writing, I fear that new generations will lose the competency to really write a text, with an introduction, a reasoning, etc. a loss of linguistic competencies, because it is said that writing is inspiration but also transpiration. They will lose the transpiration aspect. I fear that the young will lose the core of intellectual work.”

### H. *Ahmed's case*

Ahmed is from Kuwait, preparing a doctorate in Laws, but with a very low level in French). “I use only translators. Having a good command of English, I write my dissertation in Arabic and English, and translate it immediately in French by using Google, Reverso, or DeepL. And then I compare the results. My CPU volunteer helps me to improve the French text if necessary, and above all to read it. and understand it. I also have difficulties for reading in French, and to pronounce it. I have not tried to use the vocal functions. My CPU volunteer tells me that I should be able to orally understand the questions, and to answer to them. I have not used any AI system to get documentation and resources.”

### I. *Other cases*

On February 27, a group of students was collectively interviewed, and they explain similar experiences. In this paragraph, to avoid repetitions, only complementary information will be mentioned.

They all had experiences with chatbots except Bulent (Turkey, Geography) and Nihel (Tunisian, Anthropology).

Mohammed (Iraq, Political Sciences) used ChatGPT to generate draft slides for one of his slideshows. Valeria (Mexico, Pharmacy) used bots for retrieving various types of pharmaceutical information. Mokhtar (Algeria, Ancient Literature), after difficulties for translating literary Arabic into French, decided not to trust Gen-AI bots anymore. Myriam (Syria, Medicine) told that she uses bots for explanations regarding French grammars and conjugation and tenses of irregular verbs.

Concerning Adama (Guinea, Laws), her mother tongue is Fulani which is not processed by Gen-AI bots, even if it is spoken by between 25 to 40 million people in West Africa [15]. So, she must use another language.

To those students, we also asked whether they used vocal functionalities for prompts: all were not aware about vocal prompts and they decided to use these functionalities.

*J. Provisional synthetic remarks*

For the moment being, only twelve students have been interviewed and our objective is to increase this number and build a questionnaire to be submitted to all CPU students so to get statistics. Anyhow, a few patterns have already been identified:

- obvious help for improving texts in French, overall for documenting, correcting and reformulating;
- use of different chatbots, sometimes intensively and frequently;
- no real different technical problems of writing prompts;
- none has attended a formal training on using Gen-AI tools;
- often, students passively accept answers of translations without any problem and neglect to check the meaning of words and their pronunciation; this attitude can have a negative influence on their command of the target language;
- when the mother language is not processed by bots, an intermediary language will be used to get results in the target language;
- since their aim is to write a dissertation, they look more interested to improve their writing skill, instead of speaking and understanding skills;
- chatbots do not give enough explanations concerning the choice of vocabulary and references;
- very different points of view about ethical problems ranging from optimistic to pessimistic;
- several rely more on their supervisors, not on chatbots;
- none seems interested in paying for using chatbots.

Anyhow, some patterns have been already discovered about the strategies used by the interviewed students. In summary, their strategies can be characterized as iterative and multilingual, together with a multi-bot approach allowing the students to deal with various points of view as schematized in Figure 2. Indeed:

- **Multilingual**, because they need to transform their initial idea of text in their own native language into the target language, via translations, reformulations,

clarifications of concepts, etc. If there is no translator from their native language, they use another language with which they can conceptualize their idea of text.

- **Multi-bot**, because according to the specificity of the task at hand and their knowledge about existing Gen-AI bots, they select the most suitable; sometimes they perform the same things with different bots aiming to converge towards the best possible answers.
- **Iterative**, because the re-do the previous tasks several times until a satisfactory text emerges.

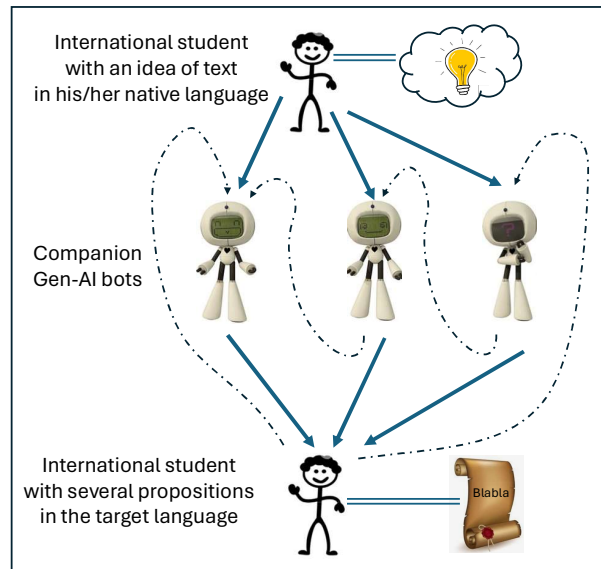


Figure 2. Schematization of the strategies for Gen-AI-assisted dissertation writing used by international students.

Furthermore, some recommendations can be listed together with suggestions to Gen-AI bot developers.

VI. RECOMMENDATIONS FOR INTERNATIONAL STUDENTS

Based on the previous interviews, other discussions with CPU volunteers and our own experiences, here is a set of some best practices which can be of interest for writing a Master or a doctoral dissertation. However, a preliminary golden rule could be as soon as a Gen-AI system delivers a text, ask yourself whether you would have written it yourself. If the answer is no, look for hallucinations or ask to reformulate this text until you can endorse a responsibility of authorship.

It must be considered as a preliminary list of best practices which can be extended lately. The first ones are targeted to all kind of students and the subsequent ones specifically for international students.

- **BP1**: remember that the scope of a research dissertation is to produce and validate novel knowledge, whereas a GenAI product will generative a text based on already published knowledge.

- BP2: do not use a GenAI product to generate a whole dissertation; in general, the obtained text is trivial [16].
- BP3: as soon as a text is AI generated, check and double-check it to remove hallucinations and fake information.
- BP4: regarding bibliography, GenAI can be of assistance for the beginning, but after never use a GenAI software to create a relevant bibliography; use instead search engines with Boolean conditions.
- BP5: when you get an interesting paper, generate a summary by GenAI software and translate it into your native language to test whether it really concerns your research questions.
- BP6: if you suspect misinformation, hallucinations or fake news, you are demanded to check and double check.
- BP7: when asking for scientific references to a GenAI bot, verify their quality and prioritize those that undergo rigorous quality control.
- BP8: feel free to employ multiple chatbots to gain diverse perspectives.
- BP9: do not look for innovative suggestions from chatbots, because they are based on existing corpora.
- BP10: please mention explicitly that you are using a chatbot in your dissertation.

Let us pass to best practices specifically dedicated to international students.

- BP11: if you have not good command either in English or in French, write initially your text with your native language, and then launch a translation. Again, check and double-check especially if there are words or expressions you do not understand.
- BP12: if you are at B2/C1 level, write a first version directly in French, and ask for reformulation; you will increase your vocabulary.
- BP13: do not hesitate to ask the same question in different chatbots, in different languages and at different dates; each answer will provide additional insights.
- BP14: if you are hesitant about a verb tense, use a conjugation software.
- BP15: if the answer is full of sophisticated words, launch a reformulation for replacing them.
- BP16: if the answer contains unknown words, check their meaning and the pronunciation.
- BP17: while the short-term objective is to write a successful dissertation, do not forget that the long-term objective is to be fluent in the target language.

#### VII. RECOMMENDATIONS FOR CHATBOT DEVELOPERS

After having listed a few best practices for international students to use intelligently chatbots through various strategies, we think that this is also the role of GenAI developers to take the specificities of international students into account. Indeed, even if English is commonplace, other requirements must be integrated. To the potential clients, one can easily add international researchers working in many

laboratories all over the world. In addition to academia, many businessmen can be interested by those functionalities in their multilingual negotiations.

However, every week a new Gen-AI bot is proposed and marketed: maybe a fresh one could already integrate some functionalities targeted to international students.

As far as we know, Gen-AI systems are developed with the assumption that the user is good in languages such as English or French. Our study leads us to identify 6 profiles of our international students (types 5 and 6 concern students whose native language is not processed but chatbots):

- Profile 1: good in French, good in English
- Profile 2: good in French, bad in English
- Profile 3: bad in French, good in English
- Profile 4: bad in French, bad in English
- Profile 5: good in native language, good in French
- Profile 6: good in native language, bad in French.

Of course, we assume that all international students are fluent in their own respective mother language or dialect. But, due the existing limited lexical fields in those languages, sometimes students have difficulties regarding the mastering of some scientific concepts. In addition, we observe that prevailing chatbots are designed for the three first profiles, but not for the three last ones.

Following our study, here are a few suggestions of requirements for future systems.

SG1: propose to provide answers with simple words and simple grammar.

SG2: if the prompt is not grammatically correct, propose to polish it and to explain simply why this is not correct.

SG3: provide translation to/from all official languages (f.i. Albanese, Fulani, etc.).

SG4: provide a functionality to check a text and a translation (perhaps coming from another Gen-AI bot) to explain the choices made by the translators.

SG5: in discussions, consider chats using different languages in different queries on the same topic (multilingual discussion).

SG6: unveil the key-aspects and requirements towards multi-bot interoperability.

#### VIII. CONCLUSIONS

The scope of this paper was to study the specificities of international students and present the challenges they can face when dealing with Gen-AI bots: they range from linguistic and cultural barriers to technological ones. After having interviewed a few students, some strategies have been unveiled: by varying language proficiency levels, students encounter challenges related to vocabulary and paragraph writing. To achieve their desired results, they navigate between different chatbots, addressing both comprehension and composition aspects. Their strategies combine iterative strategies, multilingualism together with a multi-bot approach.

Then, following those interviews, some best practices have been discovered, first for international students and then for Gen-AI bot developers, a few requirements are suggested.

The initial objective of this paper was to explore the ways CPU international students use Gen-AI especially for writing their dissertations by interviewing some of them. Now, some patterns have been identified, and a more rigorous questionnaire must be built to get statistics.

To conclude this study, apparently Gen-AI bots have been designed with the background that everybody has a good proficiency in English or in his/her native language: this assumption is too strong when observing not only the difficulties international students are facing in their daily use of Gen-AI bots but also the various strategies they use to reach the desired results.

#### ABOUT AUTHORS

RL and YL are volunteers at CPU-Lyon in which they are in charge of helping international students to write their dissertation. RL is professor emeritus in information technologies and YL in sociology. Together they author two books of recommendations for writing doctoral and Master dissertations, one in French [17] and the other in English [18].

#### ACKNOWLEDGMENT

We thank all students and volunteers at CPU [19] for having helped us for this research. And also, we are very grateful for the companies providing free chatbots. We mention that there is no external funding for this work.

#### REFERENCES

- [1] <https://www.coe.int/en/web/common-european-framework-reference-languages>
- [2] UNESCO (2023) "Guidance for generative AI in education and research". United Nations Educational, Scientific and Cultural Organization, ISBN 978-92-3-100612-8.
- [3] University of Edinburgh (2023) "Guidance for students on the use of Generative AI (such as ChatGPT)". Can be downloaded from [https://www.ed.ac.uk/sites/default/files/atoms/files/university\\_guidanceforstudentsonworkingwithgenerativeai.pdf](https://www.ed.ac.uk/sites/default/files/atoms/files/university_guidanceforstudentsonworkingwithgenerativeai.pdf)
- [4] Chan, C.K.Y., Hu, W. (2023) "Students' voices on generative AI: perceptions, benefits, and challenges in higher education". *Int J Educ Technol High Educ* 20, 43 <https://doi.org/10.1186/s41239-023-00411-8> [2]
- [5] Russell Group. (2023). "Russell Group principles on the use of generative AI tools in education" (p. 3). Can be downloaded from [https://russellgroup.ac.uk/media/6137/rg\\_ai\\_principles-final.pdf](https://russellgroup.ac.uk/media/6137/rg_ai_principles-final.pdf)
- [6] MLA-CCCC (2023) "Joint Task Force on Writing and AI Working Paper: Overview of the Issues, Statement of Principles, and Recommendations". <https://cccc.ncte.org/mla-cccc-joint-task-force-on-writing-and-ai>
- [7] Collin S., Marceau E. (2022) "Enjeux éthiques et critiques de l'intelligence artificielle en enseignement supérieur", *Éthique publique* [online], vol. 24, n° 2 | 2022, URL : <http://journals.openedition.org/ethiquepublique/7619> ; DOI : 10.4000/ethiquepublique.7619
- [8] PolyU (2023) "Guidelines for Students on the Use of Generative Artificial Intelligence". Can be downloaded from <https://www.polyu.edu.hk/ar/docdrive/polyu-students/Student-guide-on-the-use-GenAI.pdf>
- [9] Wei L (2023) "Artificial intelligence in language instruction: impact on English learning achievement, L2 motivation, and self-regulated learning". *Front. Psychol.* 14:1261955. doi: 10.3389/fpsyg.2023.1261955.
- [10] Song C and Song Y (2023) "Enhancing academic writing skills and motivation: assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students". *Front. Psychol.* 14:1260843. doi: 10.3389/fpsyg.2023.1260843.
- [11] Heo, J., Lee, J. (2019). "CiSA: An Inclusive Chatbot Service for International Students and Academics". In: Stephanidis, C. (eds) *HCI International 2019 – Late Breaking Papers. HCII 2019. Lecture Notes in Computer Science()*, vol 11786. Springer, Cham pp. 153-167. [https://doi.org/10.1007/978-3-030-30033-3\\_12](https://doi.org/10.1007/978-3-030-30033-3_12).
- [12] Wang, T., Lund, B.D., Marengo, A., Pagano, A., Mannuru, N.R., Teel, Z.A., Pange, J. (2023) "Exploring the Potential Impact of Artificial Intelligence (AI) on International Students in Higher Education: Generative AI, Chatbots, Analytics, and International Student Success". *Appl. Sci.* 2023, 13, 6716. <https://doi.org/10.3390/app13116716>
- [13] Refer to [https://en.wikipedia.org/wiki/Languages\\_used\\_on\\_the\\_Internet](https://en.wikipedia.org/wiki/Languages_used_on_the_Internet)
- [14] Kolb D.A., Kolb, A.Y. (2013) "The Kolb Learning Style Inventory 4.0: Guide to Theory, Psychometrics; Experience Based Learning Systems, Inc. Can be downloaded from <https://learningfromexperience.com/downloads/research-library/the-kolb-learning-style-inventory-4-0.pdf>
- [15] [https://en.wikipedia.org/wiki/Fula\\_people](https://en.wikipedia.org/wiki/Fula_people)
- [16] Silvestri S. (2023) "ChatGPT for Scientific Writing: Navigating Potentials and Challenges". *The Fifteenth International Conference on Future Computational Technologies and Applications, Future Computing 2023, June 26, 2023 to June 30, 2023, IARIA.* Slides can be downloaded from [https://www.iaria.org/conferences2023/filesComputationWorl d23/SimoneSilvestri\\_Keynote\\_ChatGPTForScientific.pdf](https://www.iaria.org/conferences2023/filesComputationWorl d23/SimoneSilvestri_Keynote_ChatGPTForScientific.pdf)
- [17] Livian Y., Laurini R. (2018) "Réussir son mémoire de master ou sa thèse, guide pour les étudiants étrangers". Editions Campus Ouvert, Grenoble. 132p. ISBN : 979-10-90293-42-7
- [18] Livian Y., Laurini R. (2019) "How to Prepare a Successful Master's or Doctoral Thesis in France: Guide for International Students". Editions Campus Ouvert, Grenoble. 126 p ISBN: 979-10-90293-53-3.
- [19] <https://www.cpu-lyon.org/wordpress/>