

Generative AI in Moroccan academia: A study of USMBA students' experiences and perspectives

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Abstract

This study explores the integration of generative Artificial Intelligence (Gen AI) tools in Moroccan academic settings. It investigates Sidi Mohamed Ben Abdellah University (USMBA) students' experiences and perspectives on AI utilization to complete language-related tasks in response to challenges related to language proficiency. The study examines the motives and factors pushing students toward AI usage, highlighting opportunities and challenges in using generative AI for task completion. It further studies issues of ethics and responsibility, including adherence to academic integrity and transparency in AI-assisted work. Findings reveal an immense reliance on AI among students, primarily to overcome linguistic limitations and enhance productivity with a reduced effort. While many students demonstrate awareness of ethical boundaries, inconsistencies in responsible use point to the need for clear forceful institutional guidelines. The study contributes to ongoing discourse on AI usage in Moroccan higher education by providing context-specific insights into user behavior, ethical considerations, and implications for policy and pedagogy.

Keywords: USMBA, artificial intelligence, language proficiency, generative AI, academic integrity, institutional guidelines, higher education

1. Introduction

The rapid advent of modern technologies alone has transformed educational practices worldwide for teachers and students alike (Laaraj, 2024; Kiong, 2023). Generative Artificial Intelligence (Gen AI) has even brought revolutionary tools assisting in school work, offering support for writing, translation, summarization, and so on (Macinska & Vinkler, 2024; Ekizer,

2025). In Moroccan higher education, these tools are sweeping in language-related tasks, where students often face challenges related to linguistic proficiency, academic writing conventions, and time constraints. Moroccan universities operate within a multilingual environment where students are often required to perform academically in languages that are not their first, such as English or French. Over the recent years and with massive student dependence on the aforementioned tools, Moroccan academics grow more concerned with the ethical and educational implications of AI. Despite this growing presence of AI-assisted practices, empirical research examining how these tools impact Moroccan students' linguistic development remains limited. This study focuses on Sidi Mohamed Ben Abdellah University (USMBA) as a representative Moroccan higher education institution to explore students' perceptions of the impact of using generative AI on their language proficiency.

Accordingly, the study aims to investigate USMBA students' experiences and perspectives regarding the use of generative AI tools for language-related academic tasks. It seeks to identify the motives and factors pushing students toward AI-dependence, as well as the perceived opportunities and challenges associated with AI-assisted work. Additionally, the study aims to examine students' awareness of ethical and responsibility-related issues, particularly in relation to academic integrity and transparency in AI use. To achieve these aims, the study addresses the following research questions: (1) What motivates students to rely on generative AI in response to linguistic challenges? (2) What opportunities and challenges do students associate with the use of generative AI in their academic work? and (3) To what extent are students aware of ethical principles governing responsible AI use in higher education? By addressing these questions, the study seeks to contribute context-specific insights into the role of generative AI in Moroccan higher education.

2. Methodology

This study adopts a mixed-methods research design to examine students' experiences and perspectives on the use of generative AI in Moroccan higher education. The population of the study consists of 71 students (Table 1) enrolled across Sidi Mohamed Ben Abdellah University (USMBA) schools and faculties, belonging to different academic disciplines to ensure that the sample reflects a broad range of disciplinary backgrounds. This diversity enhances the study's capacity to capture varied perspectives, experiences, and academic orientations present within the university's educational ecosystem. Data were collected through a questionnaire

administered to the student population. The instrument includes both close-ended and open-ended questions, allowing for the collection of quantitative data on patterns of AI usage as well as qualitative insights into students' motivations, perceptions, and ethical considerations. Participants' belong at least to seven distinct faculties and schools, which include *la Faculté des Sciences et Techniques (FST)*, *l'École Nationale des Sciences Appliquées (ENSA)*, *la Faculté des Sciences Juridiques, Économiques et Sociales (FSJES)*, *l'École Nationale de Commerce et de Gestion (ENCG)*, *la Faculté des Lettres et Sciences Humaines Dhar El Mehraz (FLDM)*, *la Faculté des Sciences Dhar El Mehraz (FSDM)*, and *la Faculté de Médecine et de Pharmacie (FMP)*. The study employed a combination of convenience and random sampling. The online questionnaire was randomly shared among students across the university, and participation was entirely voluntary, allowing respondents to voluntarily complete the survey. Ethical considerations were observed as participants were informed of the purpose of the research, and their participation was based on informed consent.

The study employed quantitative analyses, mainly consisting of descriptive statistics, with data summarized using Google Forms graphs and Microsoft Excel. For the qualitative analysis, responses were coded manually by the researcher through iterative review. Themes are extracted on recurrence across participant responses rather than through the application of a predefined coding framework, with emphasis placed on identifying repeated patterns of responses.

Table 1. Participants' background information

Gender	Males	30
	Female	40
Educational Level	Bachelor	21
	Master	12
	Doctorate	37
School of Belonging	FST	27
	ENSA	11
	ENCG	1
	FLSHDM	2
	FSJES	11
	FSDM	2
	FMP	16
TOTAL		71

3. Findings

After eliciting background data, participants are asked about which language they most often use when seeking AI assistance in their class work or assignment. The rationale for this inquiry lies in understanding how AI tools are relied on in foreign language learning and usage. Identifying the dominant languages students rely on when interacting with AI helps reveal whether they are self-reliant or dependent on AI, which may be an indicator of their low language proficiency. Figure 1 below shows the languages AI most resorted to assist with in daily academic tasks.

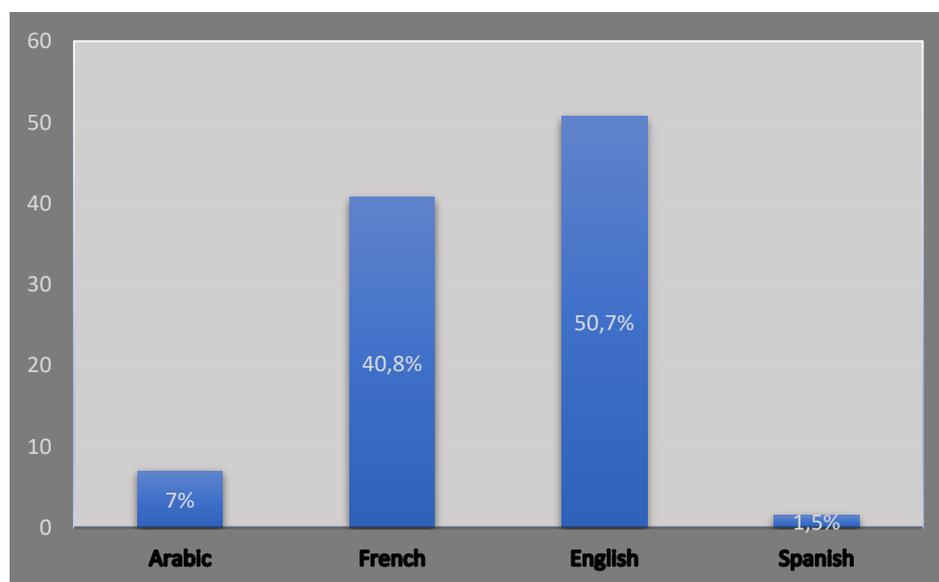


Figure 1. Languages most needed AI assistance with

The results indicate that more than half the population of students prefer using English when asking AI for academic assistance, followed by nearly 49% who primarily use French. A smaller portion, 7%, rely mainly on Arabic, while an insignificant portion of respondents reported using other languages. These proportions reflect clear differences in linguistic choices among students and highlight the predominance of the two major foreign languages, English and French, in AI-mediated academic practices. The results suggest that English and French are major school languages whose tasks students resort to AI to do and accomplish. That is, apart from presumed value of AI assistance to save time and effort, the rates may also mean students' weakness in these highly demanded international languages and imply that AI tools may be reinforcing students' linguistic handicap.

In order to understand how AI is influencing foreign language development, students were asked about the frequency of their use of AI for language-related tasks and assignments. Since

these tasks directly involve productive skills, determining how often learners delegate them to AI helps reveal the extent to which AI is interfered into their language-learning processes. Figure 2 displays the frequency of AI usage for language course routine tasks.

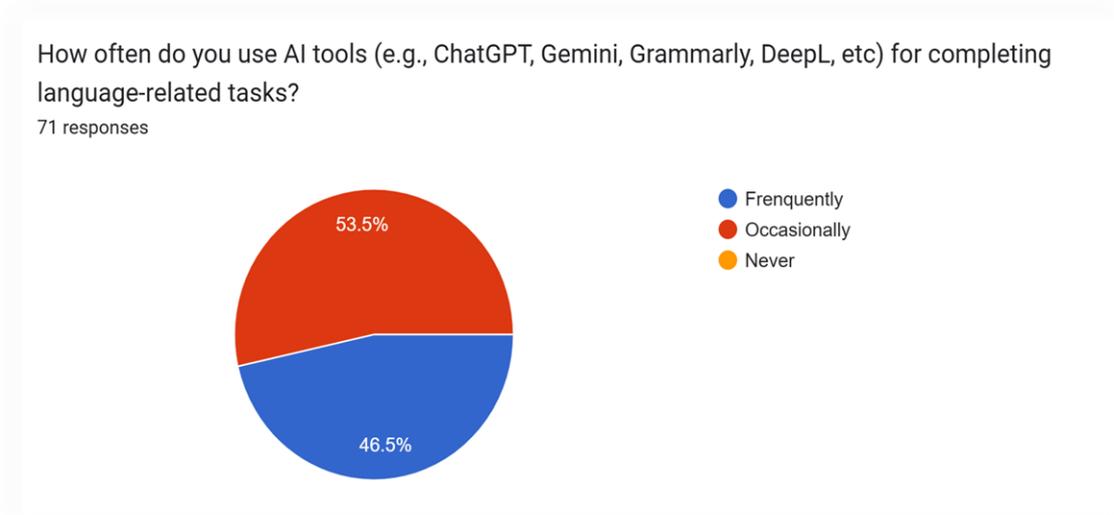


Figure 2. Frequency of resorting to AI tools

The results show that 46.5 % of students use AI frequently for language-related academic tasks, while more than 53% use it occasionally. Interestingly, none indicates that they never rely on AI, which clearly demonstrates that all surveyed students engage with AI at least to some extent when completing linguistic assignments.

Taken together, these findings suggest that AI has become an inevitable companion in students' language-related academic activities. The fact that no participants opted for "never" indicates widespread adoption of AI as a school aid. The almost even split between frequent and occasional users implies varying degrees of dependence. This pattern may reflect differing proficiency levels or perceived utility of AI. It worth noting that such strong reliance on AI could both enhance language development through frequent exposure to models of well-formed language, or hinder it because of immense reliance, reducing opportunities to develop their own linguistic competence.

Therein, the following question inquired about the extent to which students believe that *AI tools help improve their language skills*. Understanding students' perceptions of AI's pedagogical usefulness provides insight into how effectively these tools are, assumedly, supporting learning processes. Figure 3 helps determine whether learners view AI as a facilitator of skill development or merely as a convenient shortcut, thereby informing discussions about the role of AI in shaping language-learning habits and outcomes.

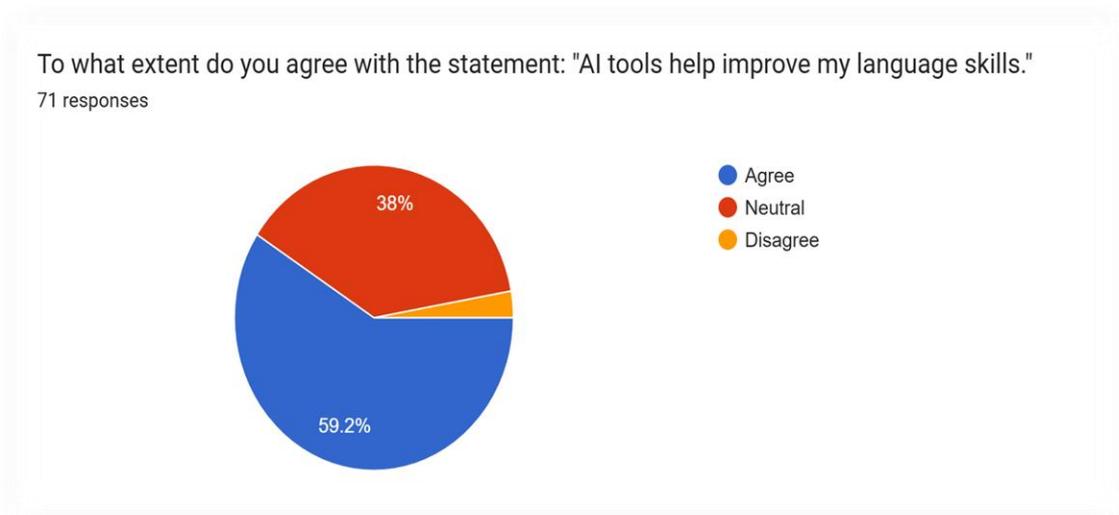


Figure 3. Students' perceptions of AI's role in language development.

The results show that more than 59% of students agree that AI tools contribute to improving their language skills, while 38% remain neutral, and only 3% disagree with the statement. This distribution suggests a predominantly positive perception of AI's influence on language development, with a substantial portion of students recognizing some form of educational benefit.

It appears that most learners perceive AI as a valuable resource in their language-learning journey, likely because it provides ample exposure and personalized instant feedback. The large neutral group of more than one third may represent students who use AI but are unsure whether it genuinely enhances their skills or merely helps complete tasks more efficiently. The insignificant percentage of disagreement suggests a little skepticism toward AI's educational value. Overall, the findings highlight a generally favorable attitude toward AI as a language-learning aid, while also pointing to the need for pedagogical guidance to ensure that students leverage AI in ways that genuinely strengthen, rather than replace, authentic language practice.

The following questions asked students about the extent they believe using AI tools might impact their autonomy in language learning. The question serves to complement the previous question by exploring a potential impact on and contribution to self-reliance in the learning process.

Figure 4 shows that 45% of students agree that AI could reduce creativity and critical thinking, 38% remain neutral, and 17% disagree. These numbers reveal a notable level of concern among nearly half of the participants, while a significant proportion prefers not to take a definitive stance on the issue.

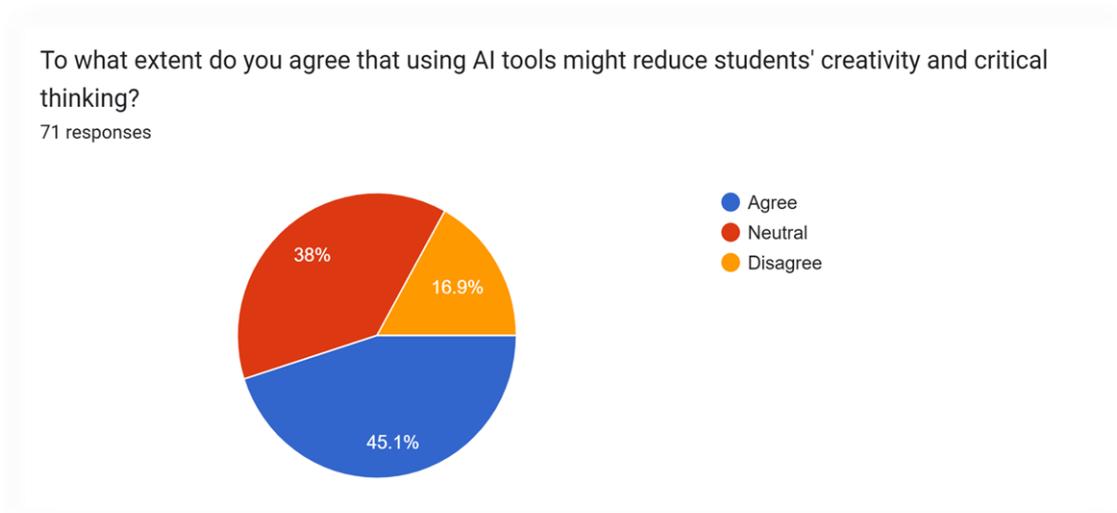


Figure 4. Students' perceptions on the effect of AI on creativity and critical thinking skills

Interpreting these findings, the considerable agreement suggests that many students recognize a potential risk in depending on AI, particularly when completing tasks that typically require original thought and personal effort. The high neutral percentage may indicate uncertainty about the cognitive effects of AI use or a lack of direct personal experience with such drawbacks. Meanwhile, the smaller group who disagrees still hold a positive view AI as a tool that enhances rather than harm cognitive skills.

The results align with previous findings (Hachimi, Benthami et al., 2025) in the Moroccan context too. The authors confirm that “there is a general consensus across participants about how excessive use of responses produced by AI can stifle independent thought and creative thinking” (p. 7). Overall, these results highlight an evident tension between students who value AI and others who view it as a threat to their thinking skills.

The final close-ended question asked whether AI and technology increases students' autonomy in language learning. Given that learner autonomy is a key predictor of long-term language acquisition success, this question directly assesses the perceived effectiveness of AI and related technologies in fostering this critical attribute. The responses, shown in Figure 5, provide immediate insight into student confidence regarding the nature of these tools and the value of technology in shifting control from the instructor to the learner.

The results indicate a major positive perception among university students regarding the role of AI and technology in increasing their autonomy in language learning. 48.5% of students affirmed this with a definitive “Yes”, while another substantial segment of 42.6% supported the statement by selecting “To some extent.” Collectively, over 91% of students perceive a positive

relationship between technology use and learner autonomy. In stark contrast, only a very small minority, of less than 9%, reckon that AI and technology do not increase their autonomy. This manifests a powerful endorsement of the perceived value of AI and technology in enhancing learner autonomy in foreign language education. The key roles of AI and technology in general in fostering language learning autonomy has been corroborated by comparable studies such as Azhar and Abdullah (2024). This claim strongly supports the integration of AI into language learning curricula as a highly effective means of fostering self-direction and independence from the students' lens.

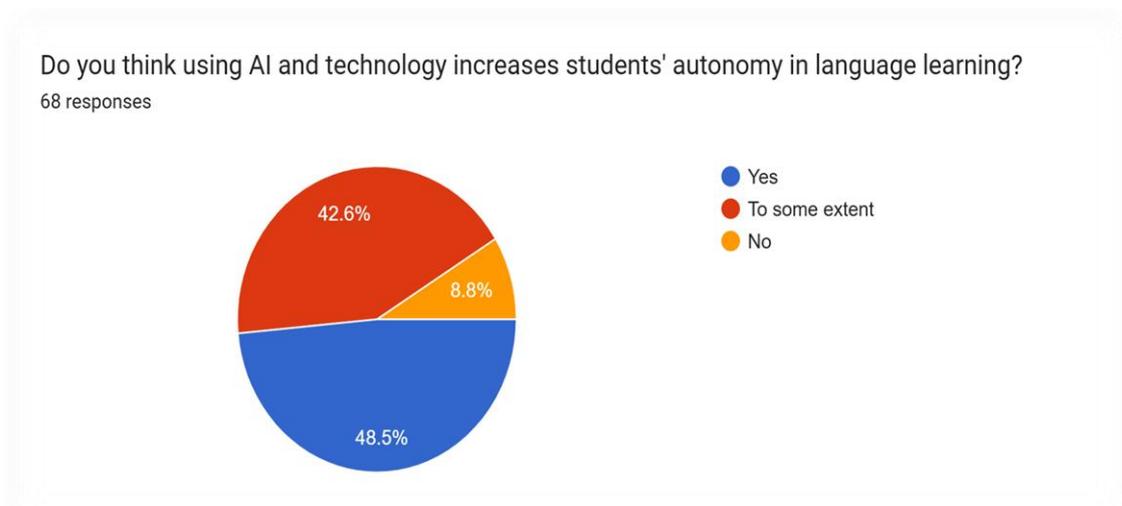


Figure 5. Students' perceptions of AI's impact on student autonomy in language learning

Eventually, students were asked two major open questions about the experienced and envisioned advantages and disadvantages of AI utilization in language learning. While quantitative questions establish a baseline of perceived effectiveness and autonomy, the first open-ended query allows students to articulate the specific, practical advantages they derive from AI. A thematic analysis on mainstream responses provides rich data that directly informs the functional design and pedagogical application of AI tools, moving beyond general approval to identify the exact mechanisms through which AI adds value.

The provided sample of student responses reveals three primary thematic advantages of using AI tools by university students.

- 1) **Enhanced Efficiency and Time Savings:** The strong focus on saving time and energy demonstrates that students see AI as a crucial mechanism for maximizing productivity. They are leveraging AI to automate or accelerate routine academic tasks, freeing up cognitive resources and time to focus on deeper learning or other life commitments.

(Narrows the time spent to find good resources, Reduce the time for making resume, (التعلم و سهولة الحصول على الإجابة).

- 2) Conceptual Clarification and Understanding: This is the most direct learning-focused advantage. Students value AI's ability to simplify complex ideas and provide on-demand help for specific difficulties. This indicates that AI is being used as a personalized, non-judgmental tutor that breaks down knowledge barriers immediately, a significant boost to independent learning that directly addresses gaps left by traditional classroom instruction. *(AI made easier understanding of hard concepts, it helps in understanding some notions that aren't clear, finding solutions of some hard questions, etc.).*
- 3) Accessibility and Flexibility of Knowledge Acquisition: This theme highlights the shift toward learner-centric and asynchronous education. By obtaining knowledge through "sending and receiving messages," students are bypassing the traditional, rigid structures of scheduled classes. This points to AI's role in democratizing access to education by offering knowledge on-demand, at the time and location of the student's choosing, fostering extreme learner autonomy by decoupling learning from institutional schedules. *(Help us to get knowledge just by sending and receiving messages, not attending class at 8 am or leaving at 6pm).*

In the context of the larger research on AI and foreign language development, these advantages suggest that students will gravitate towards AI tools that offer instant, comprehensible explanations and those that allow for flexible, personalized practice schedules (Jara Chiriboga et al., 2025). This supports the view that modern AI is highly effective because it caters to the student's need for both clarity and convenience, surpassing the limitations of older technologies.

Finally, students are asked about the main disadvantages of using AI tools, which is essential for obtaining a balanced and close perspective on the integration of Artificial Intelligence into higher education. While the previous analyses highlighted the significant advantages, this question allows students to articulate the real or perceived risks, concerns, and limitations of AI tools. The sample of student responses reveals four primary thematic disadvantages associated with the use of AI tools:

- 1) Dependence and Cognitive Erosion: This is the most pronounced concern, indicating a fear that AI's efficiency will lead to learned helplessness. Phrases like "*Total Dependence*", P05, FST, "*Students may rely on AI without actively engaging in*

learning” P23, ENCG, and “*Don’t use the brain*” P50, ENSA, highlight a deep-seated worry that relying on AI for solutions will atrophy essential cognitive skills and critical thinking, ultimately hindering the active engagement required for true mastery. In foreign language learning, this translates to the risk of over-relying on AI for translation or correction, which prevents the brain from making and retaining its own linguistic connections.

- 2) Academic Integrity Risks: The explicit mention of cheating in “*when using it incorrectly or using it to cheat*”, P11, FSDM, and “*Cheating on the exam*” P25, FDHSDM, show that students are acutely aware of the ethical boundary blurring caused by readily accessible AI tools. This concern places a burden on educational institutions to clearly define acceptable AI use and emphasizes the need for assessment methods that cannot be easily circumvented by generative AI.
- 3) Functional Limitations: Students recognize that AI is not a perfect substitute for human interaction. Concerns about the “*absence of human reactions*”, P66, FMP, and the potential for AI to “*give wrong information*” P2, FST point to the current limitations in AI's capacity for nuanced, empathetic, or fully accurate communication. In language learning, this is critical, as language acquisition requires exposure to human-level nuance, emotion, and culturally specific reactions that current models may not reliably simulate.
- 4) Inhibition of Creativity: The belief that AI is “*killing the creativity*”, P68, FSJES suggests that students feel the immediate availability of AI-generated content may stifle the development of their own original thought processes, unique writing styles, or problem-solving approaches.

Overall, the data suggests that the main disadvantages are less about the technical failure of the tools and more about the ethical and psychological impact on the learner. To integrate AI into language development effectively, educators must address these risks by promoting and demanding critical AI literacy and designing tasks that require genuine cognitive effort regardless of the use of AI.

4. Conclusion

This research aimed to examine the link between AI use and language learning among Moroccan university students, utilizing a mixed-methods approach to survey the perceived

effectiveness of modern AI tools in foreign language learning and development. The results strongly illustrate a positive student view of the relationship between the intelligent tools employed and autonomy and learning outcomes. Modern AI and technology were overwhelmingly viewed as an asset for increasing learner autonomy. However, this positive reception is significantly encountered by the students' own concerns, which emphasize a potential risk of excessive dependence and cognitive abilities limitation. Ultimately, the data suggests that while AI is recognized as a desirable helpful tool for independent learning, its successful and ethical integration hinges entirely on establishing clear rules and comprehensive AI literacy training to mitigate the recognized risks of misuse and over-reliance.

Limitations

Despite its contributions, the study presents several limitations that should be acknowledged. The sample size was relatively small (71), which may limit the generalizability of the findings. Additionally, although participants were drawn from various academic institutions, the study was conducted within the same university (USMBA), potentially restricting the diversity of educational environments represented. Furthermore, the research relied primarily on self-reported perceptions, and no standardized or approved tests were employed to empirically validate students' views regarding AI use or to objectively measure its assumed positive impact on language development. There is also a possibility of sampling bias, as the questionnaires were distributed online, which may have favored students who are more digitally engaged or already inclined toward AI use. These limitations suggest that the findings should be interpreted with caution and highlight the need for broader, multi-institutional studies incorporating validated assessment tools.

Disclosure Statement

The authors declare that there is no conflict of interest regarding the publication of this article. No financial, personal, or professional relationships have influenced the research, analysis, or conclusions presented in this work.

Notes on Contributors

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Appendix: Questionnaire

Investigation of AI Use for Language Education in Morocco

You are invited to participate in a research study to explore your perceptions, experiences, and functional applications of artificial intelligence in enhancing language learning and teaching across Moroccan universities. Your honest opinions are essential and will contribute to a better understanding of how AI can support educational development in this context. Participation is entirely voluntary, and all responses will be kept strictly anonymous and confidential. By continuing, you are giving your informed consent to participate in this study. Thank you for your valuable time and input.

1. Gender

- Male
- Female

2. Educational Level

- Bachelor/Licence
- Master/Engineering
- Doctorate

3. USMBA School/Faculty

- | | | |
|----------------------------|------------------------------|----------------------------|
| <input type="radio"/> FST | <input type="radio"/> FLSH | <input type="radio"/> FSDM |
| <input type="radio"/> EST | <input type="radio"/> FSJES | <input type="radio"/> FMP |
| <input type="radio"/> ENA | <input type="radio"/> Charia | <input type="radio"/> ISS |
| <input type="radio"/> ENCG | <input type="radio"/> ENS | |

4. Which languages are taught in your school/faculty?

- Arabic
- French
- English
- Others: _____

5. Which language do you most often use AI tools to assist you with?

- Arabic
- French
- English
- Others: _____

6. How often do you use AI tools (e.g., ChatGPT, Gemini, Grammarly, DeepL, etc.) for completing language-related tasks?

- Frequently
- Occasionally
- Never

7. Please rank the following tasks from 1 (least) to 5 (most) based on how often and how importantly you use AI for them:

	Grammar correction	Translation	Writing assistance (e.g., texts, reports, emails)	Vocabulary enhancement and learning	Reading comprehension support	Generating practice quizzes or test preparation
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. To what extent do you agree with the statement: “AI tools help improve my language skills.”

- Agree
- Neutral
- Disagree

9. To what extent do you agree that using AI tools might reduce students’ creativity and critical thinking?

- Agree
- Neutral
- Disagree

10. Are there any existing guidelines or rules about the use of AI tools in your university?

- Yes
- No
- No idea

11. Do you agree that Moroccan universities need clear policies regulating AI in education?

- Agree
- Neutral
- Disagree

12. Have you received any training or support on the effective and responsible use of AI tools?

- Yes
- No

13. Do you think using AI and technology increases students’ autonomy in language learning?

- Yes
- To some extent
- No

14. Do you believe AI tools are being used appropriately and responsibly by students in your school or faculty?

- Yes
- To some extent
- No

15. In your opinion, what are the main advantages of using AI tools by university students?

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16. In your opinion, what are the main disadvantages of using AI tools for language learning?

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17. What suggestions do you have for regulating AI use in Moroccan universities to ensure ethical and productive learning?

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18. Please feel free to add any comment, feedback, or idea that needs attention in this survey.

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