

## **The impact of artificial intelligence on the learning of written expression in french as a foreign language. study with master's (m1) students, university of M'sila**

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### **Abstract:**

*This research explores the impact of artificial intelligence on improving written production through tools such as ChatGPT and Language Tool. An experiment was conducted with first-year Master's students in French as a Foreign Language (FLE) at the University of M'sila. The results reveal a significant improvement in the quality of written work, particularly in terms of grammatical correction and lexical enrichment. The study thus highlights the need to combine technology with human guidance to foster student autonomy.*

**Keywords :** French as a Foreign Language, written expression, artificial intelligence, learning, students

## **L'impact de l'intelligence artificielle sur l'apprentissage de l'expression écrite en français langue étrangère. Étude menée auprès d'étudiants en master 1 (M1) à l'université de M'sila.**

### **Résumé :**

*Cette recherche explore l'impact de l'intelligence artificielle sur l'amélioration de la production écrite à l'aide d'outils tels que ChatGPT et Language Tool. Une expérience a été menée auprès d'étudiants en première année de master en français langue étrangère (FLE) à l'université de M'sila. Les résultats révèlent une amélioration significative de la qualité des travaux écrits, notamment en termes*

*de correction grammaticale et d'enrichissement lexical. L'étude souligne ainsi la nécessité d'associer la technologie à l'accompagnement humain pour favoriser l'autonomie des étudiants.*

**Mots-clés :** *français langue étrangère, expression écrite, intelligence artificielle, apprentissage, étudiants*

## Introduction:

Current teaching methods have undergone a radical transformation due to recent technological advances, particularly in the field of foreign languages. Among these innovations, artificial intelligence now holds a significant place, offering teachers and learners increasingly intuitive and interactive tools. Far from being limited to simple automatic correctors, these advanced systems serve as true educational assistants, capable of reformulating, correcting, and even providing stylistic advice tailored to the learner's level.

These technologies open up exciting possibilities, especially for improving written expression in the context of French as a foreign language—an advanced skill that involves vocabulary, grammar, and discursive coherence. The growing use of platforms like ChatGPT and Language Tool by learners raises crucial questions: Do these tools truly improve the quality of written production? Do they help learners better master language rules? Or do they risk creating a dependence on instant corrections?

This reflection leads us to formulate our central research question: under what conditions can AI serve as a lever for progress in written expression? Based on this question, we propose the following hypothesis: a guided use of these tools, combined with a critical analysis of the suggestions provided, would enable students to improve their written production.

To test this hypothesis, our study will focus on a sample of first-year Master's students in French as a Foreign Language at the University of M'sila, examining two key aspects:

- The correction of grammatical and lexical errors;

- Vocabulary enrichment.

The objective of this study is to demonstrate the impact of artificial intelligence tools on improving writing skills among first-year Master's students in the French as a Foreign Language department at the University of M'sila.

### **1- Theoretical Framework:**

The use of artificial intelligence (AI) in the teaching of French as a Foreign Language (FLE) is generating growing interest, particularly in the field of written production. AI—especially natural language processing technologies such as ChatGPT—enables advanced linguistic interactivity, paving the way for virtual immersion and individual appropriation of the target language. These technologies go beyond simple text generation; they analyze, correct, and offer suggestions for improvement, which are integrated into a personalized learning approach.

Many recent studies have highlighted the contribution of AI to improving learners' written expression. Eleni (Mavropoulou, 2023, pp. 63-70), for example, examines the use of ChatGPT in teaching French as a Foreign Language (FLE) for specific purposes. It shows that this tool allows for the creation of tailored didactic content and meets learners' needs in terms of grammatical correction and lexical enrichment. Furthermore, Camélia (Bechiri, 2024, pp. 139-148), (Mavropoulou, 2023, pp. 63-70) emphasizes that AI serves as a complementary tool to the teacher's work, providing immediate feedback on students' written productions, which promotes constructive self-revision.

Among the most widely used tools, ChatGPT stands out for its ability to generate text in a fluid and contextual manner, thus facilitating writing, reformulation, and the synthesis of ideas. Language Tool, on the other hand, is a multilin-

gual grammar checker that offers targeted recommendations regarding textual coherence, syntax, and style. These tools contribute not only to the technical improvement of written work but also to learner autonomy, encouraging students to reflect on their mistakes and progress independently.

However, the integration of AI into the teaching of French as a Foreign Language should be approached with caution. The teacher plays a central role in guidance and assessment, as the machine cannot replace pedagogical expertise or human sensitivity in correcting or interpreting a text. The use of artificial intelligence should therefore be seen as an additional pedagogical tool—one that can enhance motivation and progress, but that requires thoughtful support. (UNESCO, 2021) also emphasizes the importance of preserving fundamental values such as fairness, transparency, and human responsibility in the use of educational technologies.

In short, AI offers considerable potential to enrich the teaching of written expression in FLE. When used as a complement to traditional teaching, it allows learning to be tailored to the specific needs of learners while promoting their autonomy and engagement in the writing process.

## **2. Methodological Framework:**

Our research was conducted within the French Department at the University of M'sila, involving 40 first-year Master's students, with the aim of analyzing the impact of artificial intelligence on the improvement of written production. The study group consisted of 37 women and 3 men, aged between 22 and 30.

To ensure the objectivity of the results, the students were randomly divided into two equal groups:

- a control group, which received no intervention, and

- an experimental group of 20 students who received support through the use of artificial intelligence.

The experiment was carried out over four sessions, each lasting 1 hour and 30 minutes.

- **Session 1:** Write a formal letter of complaint (200 words)

**Session 2:** Write an argumentative text on a societal topic (250 words)

**Session 3:** Write an autobiographical narrative using the passé composé and the imparfait correctly (300 words)

**Session 4:** Rewrite a text with lexical enrichment and syntactic correction

The written productions were evaluated using a common assessment grid, including:

- Grammatical accuracy (10 points)
- Lexical richness (5 points)
- Coherence and structure (5 points)

### **Questionnaire**

At the end of the experiment, students from both groups completed an anonymous questionnaire aimed at assessing:

- Their perception of learning written expression
- Their level of motivation
- And for the experimental group:
- Their experience with using AI in writing

**Table 1. Comparison of Results**

Evaluated Criteria	Experimental Group	Control Group
Grammatical Correction	8.4/10	6.5/10
Lexical Richness	4.2/5	3.1/5
Coherence and Structure	4.6/5	3.9/5
Average Total	17.2/20	13.5/20

### Questionnaire Results

90% found AI useful for correcting mistakes.

70% believe that AI helped them improve their vocabulary.

40% admit to having “copy-pasted” sentences suggested by AI without always understanding them.

60% wish to receive specific training on the pedagogical use of AI.

### 3. Analysis and Presentation of Results

- The table No. 1 above presents a comparison between the results of the experimental group that used artificial intelligence tools and those of the control group. The evaluation criteria in this test are: grammatical correctness, lexical richness, coherence, and structuring.

**Grammatical correctness:** The experimental group achieved an average of 8.4/10 compared to 6.5/10 for the control group.

- The use of tools such as ChatGPT or Language Tool allowed students to better identify and correct errors,

thanks to the automatic suggestions generated by these technologies.

**Lexical richness:** The average for the experimental group is 4.2/5, while the control group had an average of 3.1/5.

- The use of AI helped enrich the vocabulary of the experimental group by proposing synonyms or reformulations.

**Coherence and structuring:** The outputs were evaluated at 4.6/5 for the experimental group and 3.9/5 for the control group.

- Students in the first group used AI to rewrite, which helped them better organize their ideas.

**Overall average:** The experimental group obtained an overall average of 17.2/20, higher than that of the control group, 13.5/20.

- These results confirm the impact of AI on the quality of written productions.
- The questionnaire helped to better understand the perception of students in the experimental group.

90% of respondents find that AI is useful for correcting mistakes, which reflects a high level of satisfaction. 70% consider that AI helped them enrich their vocabulary, confirming its positive impact on lexical enrichment. 40% admit to having copy-pasted without understanding, highlighting a risk of dependency in the use of AI. 60% of the students express a desire to receive training on how to use these tools. This shows they need guidance that allows them to use AI autonomously.

#### 4. Discussion:

The results obtained reveal a gap between the two groups (experimental and control), particularly in terms of grammatical correction, lexical richness, and textual coherence.

a) **Grammatical correction:** Students who used artificial intelligence tools such as Language Tool or ChatGPT achieved better grammar results, with an average of 8.4/10 compared to 6.5/10 for the control group. Thanks to automatic correction accompanied by contextualized explanations, students were able to identify and understand their errors more quickly. Several also noted in the questionnaire that these tools helped them assimilate some complex grammatical rules, such as past participle agreement or the choice between subjunctive and indicative moods.

b) **Lexical richness:** Artificial intelligence also had a positive impact on vocabulary enrichment. The experimental group obtained an average of 4.2/5 compared to 3.1/5 for the control group. The tools used served as genuine lexical aids, suggesting synonyms and varied reformulations. This allowed students to diversify their lexical fields, especially in demanding text types such as arguments or narratives.

c) **Structuring and coherence of discourse:** The productions of the experimental group stood out by better organization of ideas, with an average of 4.6/5 compared to 3.9/5 for the control group. Students often used AI for critical proofreading, requesting suggestions to reorganize their paragraphs or improve the flow of their reasoning. This resulted in texts that were better structured and more coherent, particularly in longer formats such as formal letters or argumentative essays.

Despite the observed advances, the qualitative analysis of the questionnaire responses highlights several points of caution:

- ✓ Nearly 40% of the students admitted to copy-pasting the suggestions from artificial intelligence without reflection, raising questions about the actual degree of appropriation of the proposed content.
- ✓ Some students expressed reservations about the relevance of the automatic corrections, especially when it came to nuanced formulations, literary style, or complex argumentation, where artificial intelligence sometimes seemed to lack subtlety.
- ✓ Others mentioned feeling guilty or even dependent on the tool, stating that they no longer dared to write independently without its assistance.
- ✓ These elements show that the educational impact of artificial intelligence strongly depends on how it is integrated into learning practices. When used in a guided, critical approach accompanied by the teacher, artificial intelligence can represent a powerful lever for the development of language skills. Conversely, passive or systematic use, disconnected from any reflection, can significantly limit its benefits or even harm students' autonomy.

## **Conclusion**

Artificial intelligence can play a decisive role in teaching French as a foreign language when integrated in a supervised and thoughtful manner, especially for the development of writing skills. The study conducted with Master 1 students revealed appreciable progress, particularly regard-

ing grammatical error correction, lexical enrichment, and the organization of ideas in written productions. These results are all the more meaningful given that students who benefited from AI did not merely use it as a simple copy-paste tool or automatic replacement for writing work. The obtained results highlight certain pedagogical limitations: several students passively accepted the suggestions offered by the tool without engaging in personal reflection or analytical effort, which could compromise the learning process by limiting their cognitive engagement.

This underscores the importance of training teachers in the thoughtful didactic use of artificial intelligence to promote learner autonomy, encourage metalinguistic reflection, and foster the acquisition of sustainable skills. In this ever-evolving digital context, the teacher's role remains fundamental. The teacher acts as an indispensable mediator, guiding AI use towards genuine linguistic and intellectual appropriation. Far from replacing the educator, artificial intelligence constitutes a full-fledged pedagogical lever, provided it is integrated within a critical, creative, and deeply humanistic approach. In the digital age, the teacher remains an essential mediator to guide AI usage towards true linguistic and cognitive appropriation. AI does not replace the educator but enriches their action as long as it is part of a critical, creative, and humanistic approach.

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