

# USING ARTIFICIAL INTELLIGENCE IN THE TEACHING AND LEARNING OF FRENCH LANGUAGE IN NIGERIA UNIVERSITIES: A CASE STUDY OF TAI SOLARIN UNIVERSITY OF EDUCATION

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## Abstract

There is no gainsaying in the fact that the world is gradually becoming a global village by leveraging the use of information and communication technology (ICT), machine translation (MT) or also artificial intelligence (AI) in the teaching and learning of French as a foreign language (FFL). French language learning has been in existence for almost two decades at the Tai Solarin University of Education (TASUED) as language facilitators have been making use of one e-learning platform or the other to foster the teaching of this target language. In this presentation, the researchers evaluate the effectiveness in the incorporation of AI in the teaching and learning of French whether it enhances the academic performance of the learners or it constitutes an impediment towards the growth and development in the acquisition of the target language. Gemini AI chatbot which is a subset of artificial intelligence will be used as methodology to examine the accuracy of some English expressions into French both written and oral expressions. Selinker's interlanguage theory will aid the interpretation of the results emanating from the machine translation to verify whether it will be beneficial to learners or prevent them from attaining proficiency in the target language. Efforts will be made to proffer some recommendations towards the

pragmatic usage of the new technology in a French classroom setting.

**Keywords:** Information and Communication Technology, Artificial Intelligence, Machine Translation, French as a Foreign Language, Tai Solarin University of Education

## Introduction

Multiple factors bedeviling the effective teaching-learning process since the pandemic era, not only in Nigeria but across the globe, are closure of schools, social distancing, disruption of academic calendars, unwillingness to further schooling by university students etc. This modern trend has triggered the emergence of Artificial Intelligence in the educational sector. The Tai Solarin University of Education (TASUED), located in the southwestern part of Nigeria, Ijagun-Ijebu-Ode, Ogun State has a rich culture in providing qualitative education. It is the first University of Education in Nigeria, second in Africa and eighth in the world with the formula 1-2-8. It has been in existence for almost two decades as the teaching of French as a foreign language (FFL) is a mandatory aspect of the University academic programmes under the College of Humanities (COHUM). French is taught as major to undergraduate and postgraduate French students and

as minor to History and Diplomatic Studies students. As at January 2024, the University has evolved into six (6) colleges and various departments as follows (<http://my.tasued.edu.ng>):

#### **COLLEGE OF HUMANITIES (COHUM)**

1. B.A & B.A ED French Studies
2. B.A & B.A ED English Studies
3. B.A & B.A ED History & Diplomatic Studies
4. B.A & B.A ED Creative Arts
5. B.A & B.A ED Religious Studies
6. B.A & B.A ED Yoruba Studies

#### **COLLEGE OF SPECIALISED AND PROFESSIONAL EDUCATION (COSPED)**

1. B.SC & BSC. ED Educational Management
2. B.SC & BSC. ED Library and Information Science
3. B.SC & BSC. ED Childhood Education
4. B.SC & BSC. ED Educational Technology
5. B.SC & BSC. ED Adult Education
6. B.SC & BSC. ED Counselling Psychology and Educational foundation

#### **COLLEGE OF VOCATIONAL AND TECHNOLOGY EDUCATION (COVTEDE)**

1. B.SC & BSC. ED Agricultural Science
2. B.SC & BSC. ED Business Education
3. B.SC & BSC. ED Home Economics
4. B.SC & BSC. ED Technical Education

#### **COLLEGE OF SCIENCE AND INFORMATION AND TECHNOLOGY (COSIT)**

1. B.SC & BSC. ED Biological Science
2. B.SC & BSC. ED Computer and Information Science
3. B.SC & BSC. ED Physics
4. B.SC & BSC. ED Chemical Science
5. B.SC & BSC. ED Human Kinetics and Health Education
6. B.SC & BSC. ED Mathematics

#### **COLLEGE OF SOCIAL AND MANAGEMENT SCIENCE (COSMAS)**

1. B.SC & BSC. ED Economics
2. B.SC & BSC. ED Political Science
3. B.SC & BSC. ED Geography and Environmental Management

4. B.SC & BSC. ED Sociological Studies

#### **COLLEGE OF AGRICULTURE AND HOSPITALITY MANAGEMENT (COAHM)**

1. B.SC & BSC. ED Agricultural Economics and Extension\*
2. B.SC & BSC. ED Animal Science
3. B.SC & BSC. ED Wildlife & Fisheries
4. B.SC & BSC. ED Tourism and Hospitality Management

NB: The first asterisk course under the last college (COAHM) is the only active programme at the moment as others are still awaiting National Universities Commission's (NUC) verification exercise and approval before seeing the light of the day.

The integration of new technologies such as artificial intelligence (AI) and machine translation (MT) are gradually evolving in the 21<sup>st</sup> century educational sector particularly in the teaching and learning of French as a foreign language across the globe. Tremendous research have been carried out on the use of AI by great scholars such as Mavropoulou, E. & Arvanitis, P (2023), Crompton, H. et al. (2022), Schmidt, T & Strasser, T. (2022), Ghareeb Ahmed Ali S (2020), Zawacki-Richter, O. et al (2019), Popenici, S.A & Kerr, S. (2017), Chen et al. (2020), Hwang et al. (2020), Luckin et Holmes (2016) etc. on the teaching and learning, not only in French but across all fields of study, from primary, secondary to the tertiary level. Since the outbreak of COVID-19 pandemic, many technological tools have been deployed in the area of enhancing educational system through effective teaching and learning online platforms. The use of machine translation, chatbots, Gemini AI software etc. as reported in Crompton et al (2022) and Mavropoulou & Arvanitis (2023) cannot be underestimated as many countries across the globe have been making use of one form of learning software programmes to fast-track acquisition process of their learners. Though the AI tools are quite helpful, there are multiple challenges emanating from the software such as :

**Perceptions:** The language facilitators must have a positive perception in order for artificial intelligence in teaching and learning to succeed.

**Technology Skills:** The incorporation of technological skills refers to language facilitator's inability of handling any technical issues emanating from the given software.

**Ethics:** Ethics related issues refers to a person's data privacy which must not be tempered with or twisted against the wish of the original author.

**Technology:** The growth and development of AI software across the globe encounter difficulties and challenges such as using the software in education, costs and purchases. The case of Gemini AI chatbot feedback poses multiple challenges to learners of French in an Anglophone environment, such as TASUED, when generating information on a subject matter due to their tabular rasa level in the target language as only a competent language facilitator can easily decipher the erroneous lexis displayed on the platform.

**More research:** In order to further entrench the use of AI in education or in a language classroom setting, more research need to be embarked on by language facilitators to guide learners in the appropriate use of this ubiquitous tool. Meanwhile, this presentation aims at highlighting the effective use of AI in a modern classroom with special emphasis on:

- i. problem of study
- ii. objectives of the research
- iii. research questions
- iv. the methodological framework (Chatbot via Gemini AI)
- v. theoretical framework
- vi. results
- vii. findings

A thorough explanation of the above listed points will guarantee a better understanding of the subject matter whether AI is beneficial to French learners or vice versa. The problem of the study gives an insight into the concept of this presentation as follows:

#### **i- The Problem of the study**

Artificial Intelligence technology or simply AI provides many potential applications in field of teaching and learning a foreign language as well as in education. Hrastinski et al (2019), Mavropoulou et al. (2022), Krystalli & Mavropoulou (2020), Arvanitis et al. (2018) and Hwang et al (2021) are of

the opinion that AI can serve as intelligent learning partner, policy advisor, tutor, tutee in the advancement of incorporating a particular skill or knowledge. In fact, little has been done in terms of incorporating the appropriate pronunciation in the Gemini AI software as an erroneous expression can create more confusion and mislead learners of French as foreign language. Part of the vital challenges of the Gemini software is the inappropriate pronunciation of French expressions by an Anglophone speaker; the pronunciation of French expression by a native speaker on the chatbot software is accurate while the one exhibited by the English phonetic speaker is completely false and unacceptable. Some objectives have been proffered in this presentation to guide upcoming French learners in the effective use of AI in a language classroom.

#### **ii- Research Objectives**

This research will allow us to:

1. Enlighten French learners on the need to appropriate AI chatbot to enhance their proficiency in the target language.
2. Demonstrate to learners the need to always adopt the correct pronunciation of French expressions on Gemini platform.
3. Communicate the importance of incorporating artificial intelligence as a backup to previous French classroom exercise.
4. Discourage French learners from the total dependence on Gemini platform due to the linguistic lapses emanating from the software.

#### **iii- Research Questions**

1. How often do TASUED French learners' study on AI chatbot?
2. Do TASUED language facilitators guide French learners on the appropriate pronunciation of expressions on Gemini platform?
3. Are French learners myopic in the application of Gemini platform after their classroom activities?
4. Should French learners be completely allowed to adopt Gemini platform for the improvement of their language acquisition?

#### **iv- The Methodological Framework (Chatbot via Gemini AI)**

As illustrated in Mavropoulou & Arvanitis (2023) and Pan (2016), this paper majorly exhibits the use of Chatbot of Artificial intelligence via Gemini platform to ascertain the level of expertise of the said technology. The researchers evaluate the level of perfection of the AI platform by incorporating some English short sentences in order to verify the feedback of the French expressions both oral and written forms. Below is a list of the five (5) sentences:

1. I am going to the restaurant.
2. We are having lectures this morning.
3. Bolu didn't come to school today.
4. Our lecturer is in the class.
5. This is my assignment.

Examining the above sentences one after the other through the Gemini AI platform as follows:

#### Gemini AI Chatbot

1. I am going to the restaurant.

##### **Je vais au restaurant.**

Here is how it breaks down: **Je** - I (subject pronoun); **vais** – the verb “**aller**” (to go) conjugated in the present tense, first person singular (I am going).

**au** – the preposition to (masculine singular form used before a word starting with a consonant); **restaurant** – restaurant.

**NB:** The pronunciation of the sentence is French by a native speaker while the explanation of the breakdown is in English.

2. We are having lectures this morning.

Formal : A. **Nous avons des cours ce matin.** (English pronunciation) – This is the most direct and formal translation, meaning “we have classes this morning”.

Informal : B. **On a cours ce matin.** (English pronunciation) – This is a more causal way to say it, literally meaning “we have class this morning”.

C. **On a des lectures ce matin.** (English pronunciation) – This also works informally and specifically mentions lectures.

Adding Time : D. **Nous avons des cours.** E. **Nous avons des cours ce matin à (time).** (English pronunciation) – You can add the

specific time of the lectures after **ce matin** – this morning.

3. Bolu didn't come to school today.

Formal : A. **Bolu n'est pas venu(e) à l'école aujourd'hui.** (English pronunciation of French sentence) – This is the most formal way to say it. “**N'est pas venu**” is the masculine past participle of “**venir**” (to come) used with “**pas**” (not) for the negative. “**Venu(e)**” covers both genders.

Informal : B. **Bolu n'est pas venu à l'école aujourd'hui.** (pronunciation by a native speaker) – This is a slightly less formal option, dropping the “e” at the end of **venu** for the masculine singular. C. **Bolu n'est pas allé(e) à l'école aujourd'hui.** (pronounced by a native speaker) – This uses **allé(e)** which is another past participle of **aller** (to go) used with **pas** for the negative.

More concise : D. **Bolu est absent(e) aujourd'hui.** (English pronunciation of French sentence) – This is a shorter way to say it, simply stating Bolu is absent today.

4. Our lecturer is in the class.

Formal : A. “**Notre professeur est en classe**”. (English pronunciation of French sentence) – This uses “**professeur**” which is the formal term for lecturer or professor. Informal : B. “**Notre prof est en cours**”. (English pronunciation of French sentence) – This uses **prof** which is the informal shortening of “**professeur**” and “**cours**” which means class in the context of a lecture.

5. This is my assignment.

Simple and Direct: A. “**C'est mon devoir**”. (English pronunciation of French sentence) – This is the most straightforward way to say it, using “**devoir**” which means both “duty” and “assignment”.

More specific (depending on the context) : B. “**C'est mon exercice**”. (English pronunciation of French sentence) – This translates to “this is my exercise” and is appropriate if the assignment is more practice oriented.

C. “**C’est mon travail à faire**”. (English pronunciation of French sentence) – This translates to “this is my work to do” and emphasizes the action of completing the assignment. Showing possession : D. “**J’ai ça comme devoir**”. (English pronunciation of French sentence) - This translates to “I have this as an assignment” and is a more informal way of saying it.

#### v. Theoretical framework

As regards the artificial intelligence technological software, it becomes incumbent to incorporate interlanguage theory as propounded by Larry Selinker (1972) in this study. Learners commit errors in their linguistic utterances; this is a stage of development in their interlanguage rehearsal. The theory is used to decipher the oral French version of the Gemini AI chatbot expression as most of the feedback emanate from -anglicism- English pronunciation of French expressions and a characteristic feature of English occurring in another language. These are traceable to the following points:

- i. Overgeneralization of some French expressions
- ii. Ignorance of French lexical restriction
- iii. Incomplete usage of French lexical expression and
- iv. Unconscious usage of false concepts in French

#### vi. Results

No language facilitator is in doubt that Artificial Intelligence technology software is quite helpful to advanced students of French as a foreign language but disastrous to beginners of this target language due to anglicism in the pronunciation of French expression as well as the variety of feedback in the outcome of information given to learners such as Bolu didn’t come to school today:

For - A. **Bolu n’est pas venu(e) à l’école aujourd’hui.**

B. **Bolu n’est pas venu à l’école aujourd’hui.**

C. **Bolu n’est pas allé(e) à l’école aujourd’hui.**

D. **Bolu est absent(e) aujourd’hui.**

The Gemini software provided four responses in which the second feedback is the most appropriate

among them due to the accurate pronunciation by a native speaker as well as the emphasis laid on the masculine gender. It is evident that only advanced learners can easily decipher the appropriate pronunciation of French expression due to their previous contact and residual knowledge of the target language.

#### vii. Findings

In this 21st century, the importance of incorporating artificial intelligence in the teaching and learning of French cannot be underestimated but language facilitators must be aware of the following findings in order to assist the upcoming learners of French as a foreign language.

- The French written expressions provided by Gemini AI are impeccable but learners may be confused in the area of combined gender expressions in the past participle verb conjugation such as allé(e) and/or venu(e) etc.
- The French oral expressions exhibited by chatbot AI software are 20% accurate (pronunciation by a native speaker) but 80% inaccurate (English pronunciation of French expressions).
- The teaching and learning of French continue on Gemini AI platform irrespective of any lockdown, academic staff union of universities (ASUU) strike or long vacation.
- Integration of artificial intelligence technology in the teaching of French enhances the status of the language facilitator globally and strengthens the relationship between the trainer-trainee beyond the online classroom activities.
- Learners must vehemently avoid shortcut expressions as provided in the oral feedback of AI software.
- Learners must seek assistance of human expert in favour of reading French expressions illustrated by AI platform.

#### Conclusion

As beautiful as convenient the machine translation or the artificial intelligence technology may appear to its users, it has tremendous advantages to the

advanced learners of French as a foreign language not only in TASUED, Nigeria, Africa, but across the globe. On the other hand, AI chatbot software undeniably constitutes an impediment to the real beginners as there are a lot of phonetic flaws emanating from the pronunciation of French expressions by the machine translation as the activity of human expertise cannot be overemphasized in the field of online teaching and learning process. There are series of obstacles being encountered by Nigerian learners such as instability of electricity, the unstable network, the insufficiency of the data etc. Using of AI technological innovation in a language class must not be totally condemned but language facilitators may abide by the following recommendations in order to enhance the quality of their teaching.

### Recommendations

Since Gemini chatbot AI technological tools serve as guide in a language classroom setting, the following points are recommended to upcoming language facilitators:

- The chatbot platform should serve as backup to learners of French as a foreign language.
- Tutors should guide and guard French learners against the mispronunciation emanating from the software.
- Gemini platform can serve as bilingual dictionary to learners of French as a foreign language.
- A language tutor of Chatbot platform must be ready to continuously correct learners of their lexical blunders and mispronunciation of French expressions.

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