

**EFFECT OF COMPUTER ASSISTED INSTRUCTION AND DIRECT METHOD ON  
JUNIOR SECONDARY STUDENTS' INTEREST AND ACHIEVEMENT IN FRENCH  
GRAMMAR IN NASARAWA STATE**

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**Abstract**

The study investigated “the effects of Computer Assisted Instruction (CAI) and Direct Method on Junior Secondary School Students Achievement in French Grammar in Nasarawa State”. Two research questions were raised and two corresponding hypotheses were formulated to guide the study adopted a quasi-experimental design, involving the pretest posttest non-equivalent control group design. The study was carried out using a total of one hundred (100) J.S.S. II students in Nasarawa State. The instrument of the study was French Grammar Achievement Test (FGAT). Data were analysed using mean and standard deviation to answer the research questions while ANCOVA and t-test was used to test the hypotheses at 0.05 level of significance. Test reliability was computed using K-R 20 correlation. The result of the rated scale was collected. It was found that CAI yielded higher mean score than direct method. The study also revealed that no significant difference in the mean achievement male and female students taught using Computer Assisted instruction. Recommendations include French teachers should use computer assisted instruction to teach French language concept to enhance achievement of students.

**Keywords:** French, Grammar, Direct Method, CAI, Gender.

## Introduction

French language is one of the language subjects in junior secondary schools in Nigeria. Other language subjects at that level are English, Igbo, Yoruba and Hausa. The Federal Republic of Nigeria (2013) stressed that "French shall be compulsory in Primary four (4) to six (6), at the Junior Secondary School and one of the fields of studies in humanities in secondary school." by this policy provision, primary six pupils and junior secondary school students have to take French to obtain First School Leaving Certificate (FSLC) and Basic Education Certificate (BCE).

Anwuka (2016), stressed that "French was on its way to becoming Nigeria's second official language." As a result, learning French will be a compulsory subject in Nigerian schools up till tertiary-level. By this pronouncement, French may become a core subject at all levels of the educational system. The importance for the study of French in Nigeria cannot be over-emphasized. The inclusion of French in the Nigerian school curriculum is in recognition of the role that the knowledge of French can play in the Nigerian national development.

Amba (2017) viewed that French language occupies an enviable position in the life of Nigerians especially in the field of education. The teaching and learning of French language is important for communication purposes as French language is an official language used in many national and international organizations such as United Nations (UN), European Union (EU), Economic Community of West African States (ECOWAS), World Health Organization (WHO) to mention just a few (Khan, 2016).

French grammar is the grammar of the French language which in many respects is quite similar to that of the roman languages. It is all about using French words in the correct way so people can understand meaning through written or oral. According to the Chambers 21<sup>st</sup> century Dictionary Revised Edition), it defines grammar as accepted rules by which words are formed and combined into sentences. It is also a person's understanding or ability to use these rules. Moreover, French grammar is the study of the form and use of words in sentence of French. It is a systematic study comparing the form and constructions of a language.

This is the reason French grammar was investigated using the computer Assisted Instruction in this study.

The relevance of teachers in the proper implementation of the policy on French teaching and learning in Nigeria anchors on the teacher's role in stimulating the learners to speak and use it for communication in various situations.

The teacher's procedure for implementing the curriculum must be adequate in both content and instructional delivery. One of the leading causes of poor achievement in French language as reported by Arunsi (2018) had to do with instructional method used by the teacher. The eight years SSCE French language results reviewed in the trends of students performance, with their percentages of performance are as follows: 2016 (43.01%); 2017 (45.4%); 2018 29.5%); 2019 (38.81%); 2020 (24.45%); 2021 (23.4%); 2022 (32.4%) and 2023 (52.42%) - source (West African Examination Council. 2023). It is *only* in the year 2023 that candidates attained up to 52.42% credit level and above thus becoming eligible for university admission. This shows that the performance of students was poor in French language. Despite the importance of French, the efforts of the teachers and researchers to promote the learning of French by students for self-reliance, there are low performance in Junior Secondary School probably due to low interest in the subject by the students.

Interest is the feeling one has in the course or process of wanting to know or learn about something or someone (Okorie, 2015). This definition is particular about the interest of learning or carrying out related activities. In general, interest is a thing refers to the like for it. This like can be shown as a form or by acting in relation to it. Interest is a construct that falls within the affective domain of knowledge. Udo and Udofia (2014) defined interest as a feeling of like or dislike towards activity or something. Interest towards French denotes interest or feeling towards study French. Okoyefi and Nzewi (2013) found that students perform well when they are exposed to methods that promotes interest is them during the teaching and learning process. Students' achievement is therefore related to interest in the teaching-learning process. Igwe, Odo, Ador, and Mariba (2023) stressed that since interest is something that motivates one to doing that thing or learning about it, interest also engenders effort. It is seen that the interaction of interest, motivation and efforts results to achievement and success in learning. Therefore, students' achievement in teaching is influenced by their interest in the subject. Methods of teaching French should therefore be such that will enhance interest. This means that conceptual understanding of concepts in French can be simpler, more concrete and more interesting to learners using appropriate pedagogy. The instructional method should therefore generate, promote, and sustain the interest of the learner for his/her active anticipation in teaching-learning process. In other words, there is need to develop interest in children for better

achievement, the pedagogy should be participatory through social interaction, togetherness and action-oriented communication.

There are various teaching methods in French language in Nigeria. Some methods include grammar translation method, audio-visual method, communicative language teaching method and direct method. These methods are used at various levels of teaching and learning. French teachers in Nigeria need to use all the skills in them to improve the student's grammar in the language. In order to achieve this, the method investigated in classroom teaching is very important. Computer Assisted Instruction and Direct method are two instructional methods used in this study.

The direct method is a system of teaching a foreign language using only that language and without emphasis on the study of grammar. Direct method of teaching languages are to build a direct ways into the world of the target language and also introducing the language directly to the students. There is no use of translation.

In general, teaching focuses on the development of oral skills. The characteristics of the direct method are:

- Teaching concepts and vocabulary real life objects and other visual materials.
- Teaching grammar by using an inductive approach (i.e. heavy learners find out rules through the preservation of adequate linguistic forms in the target language).
- The central of spoken language (including a native-like pronunciation).
- Focus on question - answers patterns.
- Students try to imitate or team language naturally the save way the child learn mother tongue. (Alex Taylor. 2023)

Direct method is also known as natural method because the students learn French in a natural way. Students learn association of words and sentences with their meanings through demonstration, dramatization, role play and say other activities without using mother tongue. So, there is no interference of other language in the form of translation. Some of the merits of direct method is that it is a natural method of teaching. In this method, students learn French as they learn mother tongue. It facilitates understanding of French. It emphasizes fluency of speech and vocal-oral words. Students learn French through this method, converse in French with great fluency. There is no gap between active and passive vocabularies. Students acquire the full command over it like a native speaker.

Computer is a machine made up of several parts. Example-monitor: It is rectangular in shape. The monitor is also called the screen or visual display unit (VDU).

Keyboard; A keyboard is used mainly for typing text into the computer screen.

Mouse: is a small device used to point and select items on the computer screen.

The system unit: is placed on the desk. It is the brain of the computer.

The importance of computer assisted instruction provides opportunity to look for information. It helps us to do research. Computer assisted instruction (CAI) is a narrower term and most often refers to drill and practice. Tutorial or simulation activities offered either *by* themselves or as supplements to traditional teacher directed instruction. Anuvaar (2022) referred to computer assisted instruction as an interactive form of teaching in which instructional materials are presented by computer and the individual's learning is tracked using a computer. It is a self-learning technique that is done offline or online usually with the student interacting with material programmes by the instructor.

Types of computer aided instructions are; drill and practice, tutorial, games, simulation, discovery, problem solving and integrated learning system (Anvaar 2022).

Computer aided instruction refers to educational system of instruction performed almost entirely by computer. In formal educational context, integration of computer assisted instruction (CAI) in the languages arts classroom can greatly assist teachers meet the needs of diverse literacy learners by providing the student immediate feedback, differentiated and scaffolded learning activities in a safe private and risk-friendly learning environment.

According to Crews (2004), “the development of computer assisted instruction in language learning is governed by nine principles which include: Integrated instruction, practice, assessment and feedback, instruction, practice, assess, feedback, support mastery learning, focus cognitive effort, personalizes computer assisted instruction, personalized instruction, practice, assessment and feedback, provide learners control and provide administrative control, learner-centred design: engaging learners to share responsibility for the learning process (the affective and the metacognitive dimensions).

According to these nine principles, the teacher should: use the target language to envision the lesson with CAI, enable collaboration, encourage students, ensure learning, evaluate achievement, require the learners to identify goals and accomplish them through collaborative work in small groups, engage the learners in regular evaluation of their progress as individual learners not as a class in the target language.

Computer assisted language learners are better language learners. This new learning technology has increased learner autonomy, cream creativity, productivity and teamwork.

Toyoda (2001) found that sufficient computer literacy in students is a necessary condition for successful autonomous learning in a CAI environment. Computer assisted instruction refers to educational system instruction performed almost entirely by computer.

Computer assisted language learning is an approach to teaching and learning languages that use computers and other technologies to present, reinforce and assess materials to be learned, or to create environments where teachers and learners can interact with one another and the outside of the world.

Computer assisted instruction learning uses a combination of texts, graphics, sound and video in the learning process through interaction and guidance of computer to achieve certain instructional goals. It leads to games in the area of grammar, reading, pronunciation, vocabulary and strategic competence for communication.

The relevance of computer is used during lesson to motivate students to continue learning outside school hours. Students gain in understanding and analytical skills, including improvement in: reading comprehension. Again, there is development of writing skills (including speaking, grammar, punctuation, editing and re-drafting), fluency, originality and elaboration. (Arunsi, 2018).

The positive attributes of the Computer Assisted Instruction have been explored to enhance students' interest in many contexts. However, studies on the effect of computer assisted instruction and direct method on students' interest and achievement are hardly found in French in Nigeria. It is therefore necessary to determine whether Computer Assisted instruction improved students' interest and achievement in French grammar in junior secondary schools in Nigeria.

The intervening variable involved in this study is the gender. Gender refers to the economic, social, political and cultural attributes and opportunities with being male or female. Onwuhanze, Arunsi and Okwuchi (2023) referred gender as the roles and social expectations that prescribed how males and females are expected to think, feel and act in a given culture or society. Gender has been found to influence students' disposition towards the study of French and their achievement in the subject. Rice (2006) found that gender differences in attitude; perception and use of computer were not found to be significant. In contrary, Lai (2022) found that boys spent significantly more time at school and at home. The instructional method therefore may impact variously on the interest of male and female learners. This fact makes it pertinent to find out if there is gender related difference in the effects of computer assisted instruction on students' achievement in French grammar.

The purpose of study was to determine the effect of computer assisted instruction and direct method on junior secondary school students' achievement in French grammar.

Specifically, the study determines the:

1. Mean achievement scores of students taught French Grammar using Computer Assisted Instruction and those taught French grammar using direct method.
2. Mean achievement score of male and female French students taught computer assisted instruction.

### **Research Questions**

The following research questions were posed to guide the researcher

1. What are the mean achievement scores of students taught French Grammar using Computer Assisted Instruction and those taught French grammar using direct method.
2. What is the mean achievement score of male and female French students taught computer assisted instruction.

### **Research Hypotheses**

The following null hypotheses were tested at 0.05 Level of significance

1. There is no significant difference in the mean achievement score of student's French grammar using CAI and taught using the Direct method.
2. There is no significant difference between the mean achievement score of male and female students taught French grammar using CAI.

### **Method**

The study adopted a quasi-experimental design of pre-test and post-test with non-equivalent control group design. The population of the study comprises of thirteen thousand four hundred and eighty nine (13, 489) students offering French in J.S.S II Government Secondary Schools in Nasaraswa State.

The sample of the study consisted 100 students in J.S.S II class by using intact class. The educational schools were purposively selected according to location to avoid closeness of the schools. The treatment was randomly assigned to the to schools. One was assigned the experimental group while the other was assigned control group.

The instrument was face and content validated by three specialists one Measurement and Evaluation, the other one in Psychology and the third a specialist in French Language.

To establish the reliability of the instrument, it was trial tested on twenty students outside the study sample, the reliability was computed using KR 20 correlation. The statistics of the test was found to be 0.83 and 0.78 respectively, showing a good reliability coefficient. The researcher used the permanent French teachers in the sample schools to teach the topic: French grammar in their respective intact classes.

The research questions were answered using mean and standard deviation, while hypotheses are used to test at 0.05 level of significance. ANCOVA was used to control the initial variations in the non-equivalent group used in the study.

## Results

**Research Question 1:** What is the difference between the mean achievement scores of students taught French grammar with assisted instruction (CAI) and those taught with direct method?

Result of the data analysis is presented in table 1.

**Table 1: Distribution of scores at pretest and post-tests of experimental and control groups (Computer Assisted Instruction and Direct Method)**

Teaching Method	N	Pre-Test		Post-Test	
		Mean X	SD	Mean X	SD
Experimental Group (Computer Assisted Instruction)	50	23.16	7.70	64.0	8.6
Controlled Method (Direct Method)	50	15.83	5.63	40.5	9.4

Table 1 reveals that experimental group (Computer Assisted Instruction) pre-test mean score was 23.16 with a standard deviation 7.70. The control group had mean achievement core of 15.8 with a standard deviation of 5.63. The post-test mean achievement score of the experimental group was 64.0 with a standard deviation of 8.6 while the control group was 40.5 with a standard deviation of 9.4. The mean difference of the experimental and control was 7.33 and 23.5 at pre-test and post-test respectively. The magnitude of mean difference is 23.5, which is seen as large. Hence, students taught grammar using computer assisted instruction were found to have done better than their counterpart taught using direct method in French Language.

## Hypothesis 1

There is no significant difference scores of students taught French grammar using computer assisted Instruction (CAI) and those taught with lecture method.



**Table 2: The summary of the t-test analysis of the post-test scores of the experimental and control group**

Source	Type III Sum of Square	Df	Mega Square	F-Cal	Sig.	Partial Eta Squared	F-Critical
Corrected model	8.44	2	4.22	0.03	0.97	0.001	
Intercept	10984.49	1	10984.49	82.60	0.000	0.534	
Pre-test	4.11	1	4.11	0.03	0.86	0.000	
Group	5.58	1	5.58	0.04	0.84	0.001	4.00
Error	9575.10	92	132.99				
Total	26442.00	100					
Corrected Total	4583.55	99					

**R-Square = 0.001, Adjusted R-Square = 0.27**

Table 2 presents a one way ANCOVA between groups analysis of covariance conducted to compare the effectiveness of two interventions designed to improve participation in French grammar. From the result of table 3, the calculated F\*value was 82.60 while the F-critical value was 4.00 at 0.05 level of significance. The calculated value of F. (82.60) was greater than the F-critical value (4.00) at 0.05 level of significance, partial eta Square = 0.001. Since the F-calculated value is greater than the F-critical value, the null *hypothesis* is rejected. Hence, we accepted the alternative hypothesis which states that there is a significant difference between the mean performance scores of students taught French grammar with computer assisted interaction and lecture method, while controlling for the pre-test.

## Hypothesis 2

There is no significant difference between the mean achievement scores of male and female students taught French grammar with computer assisted instruction.

The data analysis of this hypothesis is summarized and presented the table 4.

**Table 2: T-Test of Male and Female Students Taught French Grammar with Computer Assisted Instruction**

Source	X	SD	N	Df	Std. Error Diff.	t-cal	t-Crit	Decision
Female	64.1	9.2	23	48	2.118	0.04	1.96	Accept H <sub>0</sub>
Male	64.0	8.2	27					

Table 2 presents the calculated value oft-test (0.04) and critical or tabulated value t (1.96) level of significance. Since the t-calculated (0.04) is less than the r-critical (1.96), therefore, the hypothesis is retained. The male and female students" mean scores in French achievement test do not differ significantly after exposure to computer assisted instruction.

## Discussion

The result obtained from the analysis of research question one and hypothesis one which are presented in table 1 and table 2 showed that students taught French grammar in French Language using computer assisted instruction (CAT) did better than their counterparts taught French Grammar using direct method. This result is in line with the findings of Kumar & Majia (2008) who observed that computer assisted instruction help all the students of the class to learn language well and to identify the different needs of the fast, slow and handicapped language learners. Computer assisted instruction provides greater efficiency throughout the school. Students gain understanding and analytical skills, including improvement in reading and comprehension. There is development of writing skills (including spelling, grammar, punctuation and redrafting and editing), also fluency, originality and elaboration. Therefore the positive effect of computer assisted instruction has beer, demonstrated with different aspects in French grammar, qualities adjectives and has been established to be a powerful intervention method in students' achievement in French grammar and other subject areas.

Results also showed that male students perform better than female students. This is in line with Tarig (2016), Achuonye (2015) and Rice (2006) that gender had no effect on academic performance of students in computer assisted instruction. This is also in-line with Joe (2023) who agreed with the finding of this study that there was no significant difference in the mean interest score of male and female students in English Language, this is applicable to French language. It is obvious that acquisition and utilization of ICT skills in secondary schools in Nigeria have thus become imperative. It is therefore well suited for the realization of Nigerian government's objective to make every Nigeria to speak French (Federal Republic of Nigeria. 2008). This includes male and female students in teaching and learning French grammar.

## Conclusion

The study revealed that the computer assisted instruction was more effective than the direct method on students' achievement in French grammar. Available research evidence shows that students' interest is low and declining leading to poor achievement as reveal in students'

performance in public examinations. The persistent low achievement in French has been of great concern to French educators and researchers. Among the factors responsible for the low interest is said to be the use of inappropriate teaching method. The computer assisted instruction enabled to perform better in French grammar than their counterpart who were taught using direct method. The computer assisted instruction is more efficacious than Direct in enhancing students' achievement. The quest for innovations in Junior Secondary Schools such as the search for effective and efficient teaching methods in every nation's educational; system should be one of the prime goals for the enhancement of lifelong education and sustainable development. Hence, computer assisted instruction is recommended and is expected if introduced and used in our schools, to enhance sustainability of language education for the achievement of 21<sup>st</sup> Century by the federal government of Nigeria.

### Recommendations

Based on the findings of this study the following recommendations were made:

1. French teachers should use computer assisted instruction in teaching other French concept in Junior Secondary School as it enhances achievement of French students.
2. French should use computer assisted instruction unassumingly for both male and female as it favours both sexes.
3. Education stakeholders should organize workshop for serving French teachers on the use of computer assisted instruction.

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