Pedagogical implications of the use of multimedia in Teaching and Learning French in Nigerian secondary schools:

A case study of Babcock University High School

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By Gobaye Boy-tchonan
Babcock University High School
Ilishan Remo, Ogun State
Nigeria
gobaye.boy@gmail.com
+234 803 483 8388 / 705 699 4898

ABSTRACT

The use of instructional media in teaching is becoming imperative in a technologically advancing world; teaching is more collaborative, technologically driven combining the use of computers with traditional teaching method. This paper examines ways through which audio-visual materials can be used to enhance lesson delivery in the classroom and improve students' academic performance in French language. A cognitive test was conducted on a sample of 128 students of the Junior secondary school (JSS) in Babcock University High School, the students were taught using the deployment of e-learning facilities and visual materials for the first group (experimental group) and the traditional method of teaching for the second group (control group). Four different treatments were administered using the same sets of student. The results of the tests were analysed using the Analysis of variance (ANOVA).

These results showed significant differences in the performance of the two (2) groups, the experimental group, students who had a hard copy text supported by visual materials such as pictures, or video file played during class or cartoon or a map or another diagram performed better than those who were limited to the hard copy text or written notes only. Hence, the use of Instructional media and visual materials is vital in teaching and learning French language in our institutions. The researcher does not leave the reader unaware of some challenges in using these tools.

Key words:

Multimedia, Visual materials, French language, Secondary Schools, Nigeria.

INTRODUCTION

Higher education is the period of advanced study following the completion of secondary education, there is need for effective instruction in the traditional subject matter areas and in French language in particular, being a foreign language and considering the importance of this international language in the academic and socio-economic life of the students, it has been observed that the majority of Nigerian secondary school students leave school and get admission into higher institutions of learning with a very poor background in this subject, this highlights the relevance of this presentation in this academic discourse on the future of higher education in Africa.

Sound and visual elements are effective tools in disseminating information. Instructional media can be used to capture the attention of students in class and create a lasting memory. The deployment of e-learning facilities in the classroom can enhance the scope of presentations endlessly varying and providing informative interactive sessions.

SOME COMMON MULTIMEDIA DEVICES AND THEIR USES

Multimedia gadgets are used to enhance the use of visual materials in teaching; these tools may include the following items commonly used in the classroom environment, the list is not based on any classification:

Personal Computer (PC), computer in the form of a desktop or laptop device designed for use by a single person. PCs function using a display monitor and a keyboard. Since their introduction in the 1980s, PCs have become powerful and extremely versatile tools that have revolutionized how people work, learn, communicate, and find entertainment.

Removable storage devices—such as floppy drives, compact disc (CD-ROM) and digital versatile disc (DVD) drives, and additional hard drives—can be used to permanently store as well as access programs and data. PCs may have CD or DVD

"burners" that allow users to write or rewrite data onto recordable discs. Other external devices to transfer and store files include memory sticks and flash drives, small solid-state devices that do not have internal moving parts.

Projector: equipment for projecting film: a piece of equipment for projecting the image from film onto a screen and for playing back recorded sound from tracks on the film.

Interactive board: an electronic board for displaying information that allows exchange of information between the user the computer and the board itself.

Screen: surface for projecting data or information, a large flat white or silver surface onto which a movie or slide is projected

Scanner: an input device used to convert an image or text into digital form for storage or display.

Digital Camera: a device for taking photographs by letting light from an image fall briefly onto sensitised film, usually by means of a lens-and-shutter mechanism

Loudspeaker: a device that converts an electrical signal into sound.

Microphone: a device that converts sounds to electrical signals by means of a vibrating diaphragm. The signals can then be amplified, transmitted for broadcasting, or used for recording the sounds.

LITERATURE REVIEW

1. **Multimedia applications in teaching and learning**

Multimedia has had an enormous impact on education in the 21st century. For example, medical students use multimedia-simulated operations that enable prospective surgeons to perform surgical operations on a computer generated "virtual" patient.

Likewise, students in aeronautics take their first flight using the same process. Animations can be included in multimedia applications to add motion to images. They are particularly useful to simulate real-world situations and also enhance existing graphics and video elements adding special effects.

Graphics designers use computers to created three dimensional graphics through a process called rendering. 3-Ds are highly accurate shapes, shading and perspective. The computer mathematically derives how an object should appear to a viewer from all angles in a given set of conditions.

In French language class, students can embark on a tour in places of interest such as the Eiffel Tower in Paris or visit a museum right in the classroom. Photographs, drawings, colourful images can be changed into a format that computer can manipulate and display.

Distance education is made possible and has created a shift in teaching and learning processes by allowing students to learn in more convenient locations and often more convenient times, opening educational opportunities to previously unreached populations. The most effective distance education employs several telecommunications media simultaneously, for example, radio broadcast, television, online lectures, social media platforms, telephone audio-conferencing, e-assessment or video chat using software such as Skype.

2. The impact of visual materials on the learner

Visuals materials are pictures, images, diagrams, charts, maps presented as soft or hard copies or other real objects that could be sighted or touched by the students, they are used by the teacher to enhance learning process. These visual materials make

learning enjoyable and memorable. Visual elements motivate students for better learning.

Seyed Jalal (2013) in his investigation on the use of visual materials also observed that: *"The use of pictures can be better and more useful than other materials. It is suggested that an effective use of things like pictures have a positive outcome and it results in better learning."* He also observed that there was a noticeable progress of the experimental group in learning words. Learning vocabulary is an important aspect in foreign language learning. The purpose of this mixed methods study was to investigate the effects of visual materials such as pictures, real objects, and flash cards on EFL learners' vocabulary learning. Forty six female intermediate students participated in the study. First, the participants were randomly assigned to either the control or experimental group. Then the two groups were administered the pre-test. During the eight sessions of the treatment, 56 vocabulary items were instructed to the participants in both groups. The experimental group was instructed the words visually, while the control group was taught the words traditionally. After the treatment, the two groups were administered the post test. The findings showed a noticeable progress of the experimental group in learning words. It was found that the learning of words in the experimental group significantly increased more than that in the control group.

Further, the participants in the experimental group perceived visual instruction as an effective way for learning vocabulary.

Bozdogan (2011) in his study aimed to identify the erroneous knowledge and misconceptions of pre service elementary teachers about global warming and examine the effects of instruction with visual materials on rectifying these misconceptions and fostering a positive attitude towards the issue of global warming concluded that pre service teachers were more successful in rectifying the gaps and misconceptions via

instruction with visual materials. Having a quasi-experimental design, the study made use of both quantitative and qualitative research methods. The participants of the study, which was conducted in 2008-2009 academic year in Giresun University's Education Faculty, were 47 pre service elementary teachers. Data were obtained by using open ended questions, the Global Warming Attitude Scale (GWAS) and semi-structured interview forms. The results showed that both experimental and control group individuals had knowledge gaps and certain misconceptions about the reasons underlying global warming.

After the intervention, the experimental group had higher global warming attitude scores. However, no meaningful relationship existed between the groups with respect to their attitude scores.

CHALLENGES IN USING INSTRUCTIONAL MEDIA IN THE CLASSROOM

Anything man-made has its own disadvantages no matter how good it may seem to be, so also the use of multimedia has its own disadvantages, some are listed below:

1. **Negative impact on class attendance**

As more of our lesson notes become converted to digital form (i.e., word document, power point), the expectation of students is to have them available before or after the class so that they can be downloaded, students can either make photocopies of notes or save the file so as to make computer -based notes while in class. However, the availability of the digital form of notes can make students lazy or lead to a negative impact on class attendance.

2. **The Internet, a curse or a blessing**

The internet offers seemingly unlimited potential to encourage learning. However, unless you plan carefully how you will use the web in your teaching, you may find that

your students do little more than surf through your class; some are easily cut up in chatting on social media, pornography and other malicious sites, etc.

TIPS FOR USING MULTIMEDIA IN THE CLASSROOM

The use of various forms of media in teaching French language enhances learning by encouraging students' participation and helping them to grasp difficult concepts and pronunciation of words. However, if handled poorly this technology can obscure instructional objectives and make students confused, the teacher anxious and frustrated, the following can serve as a guideline:

1. The teacher should not let the media available determine what to teach, he/she should decides what to accomplish and determine the media or other visual materials that suit his/her objectives.
2. It is advisable to use a variety of tools: PowerPoint, Word, WordPad, Jpeg, Pdf, etc.
3. All connections, devices and other tools should be checked before the class starts to be sure everything is working perfectly to avoid frustration and waste of time, etc.
4. Students should be well monitored while using their laptops during class activities;
5. Students should also be restricted from accessing pornographic sites while surfing the net.

MATERIALS AND METHODS

1. Study area

The study was conducted in Babcock University High School, Ilishan Remo, Ogun State in the South-Western part of Nigeria.

2. Sampling and Sample size

A cognitive test was conducted on a sample of 128 students of the Junior Secondary School Three (JSS 3) from six (6) classes divided into two (2) groups. Students from JSS 3 A, B and C formed the experimental group while students from JSS 3 D, E and F formed the control group. Placement of students into the various classes was randomly carried out by the Student Affairs Directorate on admission into Junior Secondary School One (JSS One).

3. Treatment

A pre-test was conducted for both groups. The first group (experimental group) was taught with deployment of e-learning facilities and visual materials while the second group (control group) was taught using the traditional method with whiteboard and markers to write the note. Two (2) post tests were administered using the same sets of students after they were taught; another test was administered the following week to assess the students' ability to remember what they were taught. The obtainable mark for each test is ten (10).

RESULTS AND DISCUSSION

While there is general consensus among researchers and practitioners in education that visual materials are effective in the classroom, the results of this study revealed that students' performance can be improved through effective utilisation of those materials.

The findings in this study can be summarised as below:

1. Students generally performed poorly in the pre-test. They had little or no knowledge of the topic.

2. Students in the experimental group performed better than those in the control group in the post-test. The integration of visual materials with textbooks or lesson notes has a positive impact on learning; they were able to recall information.

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The ANOVA Procedure

Class Level Information

Class	Levels	Values
_EXPERIMENTAL_GROUP	2	T1 T2

Number of Observations Read   128

Number of Observations Used   128

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The ANOVA Procedure

Dependent Variable: PRETEST_1   PRETEST 1

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.4836391	0.4836391	0.33	0.5654
Error	126	183.4460484	1.4559210		
Corrected Total	127	183.9296875			

R-Square	Coeff Var	Root MSE	PRETEST_1 Mean
0.2629	253.1915	1.206616	0.476563

Source	DF	Anova SS	Mean Square	F Value	Pr > F
_EXPERIMENTAL_GROUP	1	0.48363905	0.48363905	0.33	0.5654

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The ANOVA Procedure

Dependent Variable: PRETEST_2   PRETEST 2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	1.61090806	1.61090806	2.23	0.1375
Error	126	90.85784194	0.72109398		
Corrected Total	127	92.46875000			

	R-Square	Coeff Var	Root MSE	PRETEST_2 Mean
	0.017421	139.3514	0.849173	0.609375

Source	DF	Anova SS	Mean Square	F Value	Pr > F
_EXPERIMENTAL_GROUP	1	1.61090806	1.61090806	2.23	0.1375

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The ANOVA Procedure

Dependent Variable: POSTTEST_1   POSTTEST 1

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	5.721074	5.721074	0.59	0.4425
Error	126	1214.497676	9.638870		
Corrected Total	127	1220.218750			

R-Square	Coeff Var	Root MSE	POSTTEST_1 Mean
0.4689	60.02955	3.104653	5.171875

Source	DF	Anova SS	Mean Square	F Value	Pr > F
_EXPERIMENTAL_GROUP	1	5.72107444	5.72107444	0.59	0.4425

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The ANOVA Procedure

Dependent Variable: POSTTEST_2   POSTTEST 2

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	54.774684	54.774684	6.03	0.0154
Error	126	1143.655004	9.076627		
Corrected Total	127	1198.429688			

R-Square	Coeff Var	Root MSE	POSTTEST_2 Mean
0.045705	52.18285	3.012744	5.773438

Source	DF	Anova SS	Mean Square	F Value	Pr > F
_EXPERIMENTAL_GROUP	1	54.77468383	54.77468383	6.03	0.0154

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The ANOVA Procedure

Dependent Variable: POSTTEST3   POSTTEST3

	Sum of				
Source	DF	Squares	Mean Square	F Value	Pr > F
Model	1	190.391026	190.391026	15.17	0.0002
Error	126	1581.483974	12.551460		
Corrected Total	127	1771.875000			

R-Square	Coeff Var	Root MSE	POSTTEST3 Mean
0.107452	68.70893	3.542804	5.156250

Source		DF	Anova SS	Mean Square	F Value	Pr > F
4.	_EXPERIMENTAL_GROUP	1	190.3910264	190.3910264	15.17	0.0002

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The ANOVA Procedure

Duncan's Multiple Range Test for PRETEST_1

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha   0.05

Error Degrees of Freedom   126

Error Mean Square   1.455921

Harmonic Mean of Cell Sizes 63.85938

NOTE: Cell sizes are not equal.

Number of Means   2

Critical Range   .4226

Means with the same letter are not significantly different.
EXPERIMENTAL

Duncan Grouping	Mean	N	GROUP
A	0.5410	61	T1
A	0.4179	67	T2

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The ANOVA Procedure

Duncan's Multiple Range Test for PRETEST_2

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha   0.05

Error Degrees of Freedom   126

Error Mean Square   0.721094

Harmonic Mean of Cell Sizes 63.85938

NOTE: Cell sizes are not equal.

Number of Means   2

Critical Range   .2974

Means with the same letter are not significantly different.

 EXPERIMENTAL

Duncan Grouping   Mean   N   GROUP

                A   0.7164   67   T2

                A   0.4918   61   T1

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                        The ANOVA Procedure

Duncan's Multiple Range Test for POSTTEST_1

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

 Alpha   0.05

Error Degrees of Freedom   126

Error Mean Square   9.63887

Harmonic Mean of Cell Sizes 63.85938

NOTE: Cell sizes are not equal.

Number of Means   2

Critical Range   1.087

Means with the same letter are not significantly different.

 EXPERIMENTAL

Duncan Grouping   Mean   N   GROUP

                A   5.3934   61   T1

                A   4.9701   67   T2

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                        The ANOVA Procedure

Duncan's Multiple Range Test for POSTTEST_2

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha   0.05

Error Degrees of Freedom   126

Error Mean Square   9.076627

Harmonic Mean of Cell Sizes 63.85938

NOTE: Cell sizes are not equal.

Number of Means   2

Critical Range   1.055

Means with the same letter are not significantly different.

 EXPERIMENTAL

Duncan Grouping   Mean   N   GROUP

            A   6.4590   61   T1

            B   5.1493   67   T2

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The ANOVA Procedure

Duncan's Multiple Range Test for POSTTEST3

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha   0.05

Error Degrees of Freedom   126

Error Mean Square   12.55146

Harmonic Mean of Cell Sizes 63.85938

NOTE: Cell sizes are not equal.

Number of Means   2

Critical Range   1.241

Means with the same letter are not significantly different.

 EXPERIMENTAL

Duncan Grouping   Mean   N   GROUP

            A   6.4344   61   T1

            B   3.9925   67   T2

RECOMMENDATIONS

1. The use of visual materials should be encouraged in all schools through the provision of e-learning facilities and other instructional materials, language laboratories should be put in place for effective use.

2. Teachers should be abreast with the new trends in teaching methodology. Seminars, workshops and conferences should be organized for training and retraining.

3. Time allocations for French language should be reviewed, more time is required to teach all the aspects of language.

CONCLUSION

The use of visual materials in the classroom offers great learning opportunities to the students and eases the work of the teacher; with visual information the teacher can expand the content of the curriculum and the lesson. The challenges arising from the use of this technology can easily be overcome through close monitoring of students and adequate preparation.

Over the years, the introduction of e-learning into the school system in Babcock University High School (BUHS) has led to effective use of visual materials in the classroom, by implication students' attention level has increased and their assimilation and retention levels as well. This is applicable to all subjects and translates into a better performance in internal and external examinations. The school has recorded 100% success in 16 subjects in the just concluded WASSCE 2015 compared to 10 subjects in 2014, 14 subjects in 2013, 12 subjects in 2012 and 10 subjects in 2011.

References

Saurabh Panjwani, Luana Micallef, Karl Fenech, Kentaro Toyama, Effects of Integrating Digital Visual Materials with Textbook Scans in the Classroom

http://research.microsoft.com/pubs/120221/Paper-Final.pdf

Seyed Jalal Abdolmanafi Rokni, Neda Karimi (2013) Visual instruction: an advantage or a disadvantage? What about its effect on efl learners' vocabulary learning?

Aykut Emre BOZDOGAN (2011), The effects of instruction with visual materials on the development of preservice elementary teachers' knowledgeand attitude towards global warming

Symmes, Daniel L., and Pella, John P. "Three-Dimensional Image." Microsoft® Encarta® 2009 [DVD]. Redmond, WA: Microsoft Corporation, 2008.

Moore, Michael G. "Distance Education." Microsoft® Encarta® 2009 [DVD]. Redmond, WA: Microsoft Corporation, 2008.