



## **Effectiveness of Audio-Visual on Male and Female Students’ Academic Performance in Social Studies**

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### **Abstract**

Technology development in the modern era assists teachers in creating a collaborative learning environment. Despite the effectiveness of audio-visual materials in teaching and learning, there are still some hinderances in its usage. This study investigated the effects of audio-visual aids on students’ academic performance in social studies in junior secondary schools. This study is an experimental study and the sample comprised of 50 junior secondary schools. The audio-visual was in powerpoint format with concepts of marriage as material of the social studies. Students were given test questions after been taught with the Audio-visual and the results of the test are indicators of their academic performance. Analysis of the data was carried out using analysis of t-test analysis. The findings established that audio-visual aids had positive effect on students’ performance and there is no significant difference between the performance of male and female students taught using audio-visual aids. This study concluded that audio-visual method of teaching had positive effect on student's academic performance. Thus, this implies that the conventional method of teaching is less effective and performance oriented. It was however recommended that adequate supervision, monitoring and the use of audio-visual in teaching social studies by teachers of the schools should be encouraged and given adequate attention.

### **Keywords:**

Effectiveness, Audio-Visual, Academic Performance, Gender, Social Studies

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**Abstrak**

Perkembangan teknologi di era modern membantu guru dalam menciptakan lingkungan belajar yang kolaboratif. Terlepas dari efektivitas bahan audio visual dalam proses belajar mengajar, masih ada beberapa kendala dalam penggunaannya. Penelitian ini menyelidiki efek dari alat bantu audio-visual pada kinerja akademik siswa dalam mata pelajaran Ilmu Pengetahuan Sosial di sekolah menengah pertama. Penelitian ini merupakan penelitian eksperimen dan sampel penelitian terdiri dari 50 sekolah menengah pertama. Audio visual dalam format powerpoint dengan konsep perkawinan sebagai materi IPS. Siswa diberikan soal tes setelah diajar dengan Audio-visual dan hasil tes tersebut merupakan indikator kinerja akademik mereka. Analisis data dilakukan dengan menggunakan analisis uji-t. Temuan penelitian ini mendapati bahwa alat bantu audio-visual memiliki efek positif pada kinerja siswa dan tidak ada perbedaan yang signifikan antara kinerja siswa laki-laki dan perempuan yang diajar menggunakan alat bantu audio-visual. Penelitian ini menyimpulkan bahwa metode pengajaran audio-visual berpengaruh positif terhadap prestasi akademik siswa. Dengan demikian, ini menyiratkan bahwa metode pengajaran konvensional kurang efektif dan berorientasi pada kinerja. Namun direkomendasikan bahwa pengawasan yang memadai, pemantauan dan penggunaan audio-visual dalam mengajar Ilmu Pengetahuan Sosial oleh guru sekolah harus didorong dan diberikan perhatian yang memadai.

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**Kata Kunci:**

Efektivitas, Audio-Visual, Kinerja Akademik, Gender, Ilmu Pengetahuan Sosial

**Cara Mensitasi:**

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## INTRODUCTION

The use of technology for learning is imperative as school population begin to increase day by day. Merriam Webster (2021) defined technology as the practical application of knowledge especially in a particular area. Raja and Nagasubramani (2018) established that technology has changed the way we live our lives by deeply impacting different facts of life. Several complex and critical processes are being carried out with ease and greater efficiency with the help of modern technology. Everyday breakthrough is reached in the advancement of technology which has given rise to new method of teaching and learning. Lisenbee (2016) argues that one way to change how teachers and learners feel about technology is to give them adequate training which increases their self-confidence. To effectively integrate technology use in school, to cater for all students there is a pressing need for evidence-based practice that explores individual and contextual factors that shapes the varied and complex ways student engages in technologies (Robinson, et al 2015).

Electronic media plays a special role in our everyday lives and has a strong influence in molding the students. Examples of electronic media are television, radio, computers, laptops, mobile phones, internet and e-magazines. In realizing the fact about electronic media, it therefore serves as a means of communication which helps to create new set of common interest and loyalties which extends to the vast majorities of children's learning. With electronic media, learners are influenced by what they hear or see and attempts to visualize their visual perception than what they learn in school. El Said (2017) states that electronic media provide meaningfully to the developing countries, challenges may include lack of telecommunication infrastructure, low interest and credit card penetration, lack of skilled profession as and insufficient delivery system to accomplish the role of electronic media in company strategies and approaches. Natoli (2011) once added that audio visual materials are rich opportunities for students to develop communication skills which actively engaged on solving meaningful problems. Natoli (2011) stressed that audio visual materials are

important in the teaching and learning processes because "having seen something, most people remember for whatever that thing was, it conjured up an image at a mere mention and can be talked about freely. Shamsideen (2016) stated that teaching and learning activities are interesting when audio visual materials are used effectively and efficiently in a classroom in a teaching situation. Tang and Intai (2017) found that the use of audio-visual materials helps students to remember content taught, facilitated their understanding and learning the topic of interest.

Kustandi (2016) stated that audio visual learning media for students helps when they are following the learning in classroom because with the audio-visual learning media, students can easily understand and remember the lessons that has been submitted by educators (teachers). Social studies is a subject which is taught at various level of education in Nigeria, it is taught at the Junior Secondary School as core subject. The national policy on Education through the Federal Republic of Nigeria, FRN (2014), made social studies a core subject in the Junior Secondary School in Nigeria, with the objective of inculcating in the learners integrated forms, basic skills, values and attitudes for useful living. Ibe and Abamuiche conducted a study on the effects of audio-visual aids on students achievement and interest in secondary school. Biology in Nigeria also concluded that there is no significant difference between the mean interest rating scores of males and females in biology. Also, there is no significant interaction effect of method and gender on students' interest in biology. This re-affirms their submission that meaningfully instructional approaches is a solution to gender difference in science.

Abdullahi (2015) defined academic performance as a measurable and observable behavior of a student within a specific period. Ascertaining the factors governing the academic performance of students is a challenging task as this is product of various factors eg psychological, socio economic and environmental factors. According to Yusuf, Onifade and Bello (2016), academic performance is a measurable and observable behavior of a students with a specific period. Yusuf et al., (2016) also added that it consists

of scores obtained by a student on an assessment such as class exercise, class test, mid semester, mock examination and end of semester examination. Mushutaq and Khan (2012) found that students performance depends on many factors such as learning facilities, gender and age difference that can affect students' performance.

Ibe and Abamu (2019), in their work also found that there is a significant difference between the main achievement scores of students taught biology with audio-visual materials and those taught with conventional methods. They also found that there is no significant difference between the mean achievement scores of male and female in biology. Therefore, according to them there is no significant interaction effect of methods and gender on student's achievement. In general, it can be said that the use of audio-visual materials can significantly improve the performance of students and also increase their interest towards learning. Ajai and Imoko (2015) undertook a study to assess gender differences in female students, it did not significantly differ in achievement and retention scores which showed that they are capable of competing in Mathematics.

Despite the effectiveness of audio-visual materials in teaching and learning, there are still some hinderances in its usage. Shamsideen (2016) in his study found out that a good number of facilitators rarely use audio-visual resources in teaching. This is as a result of the unavailability of these materials. Shamsideen (2016) also found that even the available ones are not effectively exploited by facilitators. Sahin and Sacer (2016) opined that sometimes there is hardship in selecting proper audio-visual materials appropriate for the subject matter, student linguistic competence and student's interest.

Tang and Intai (2017) in their study on effectiveness of audio-visual aids in teaching secondary science in a rural secondary school showed that audio visual aids are effective in increasing in the understanding of students. Shamsideen (2016) investigated impact of audio-visual materials in the dissemination of knowledge for facilitators in some selected literacy centers in Oshodi, Isolo. He also suggested that there is a great impact in the audio visual in the teaching-learning process in

various literacy centers in Lagos state. His work also showed that there is inadequate quantity of audio-visual materials available in those literacy centers.

Ibe and Abanuche (2019) in their effects of audio-visual technological aids on student's achievement and interest in secondary school biology in Nigeria revealed that group exposed to lessons with audio visual technological contents integrated, achieved higher in test scores than the group not exposed to. From my research so far, no known study has been carried out to investigate the effect of audio-visual aids on student's academic performance in social studies in Junior Secondary School in Ilorin metropolis. Hopefully, the result from this research will open a ground for further studies on the above subject matter in Ilorin metropolis.

The main purpose of the study was to investigate the effect of audio-visual on student's academic performance in social studies in junior secondary schools, Ilorin metropolis. Specifically, the study examined; 1) the effectiveness of audio-visual on student's academic performance, 2) The differences between male and female student performance in social studies.

## **METHODS**

The study is an experimental research design type. This examined the effect of audio-visual on students academic performance in social studies in junior secondary school, Ilorin metropolis. This experimental design type was adopted because it enabled the researcher to test his/ her idea in a controlled environment and also because the researcher had strong hold over variables to obtain desired results.

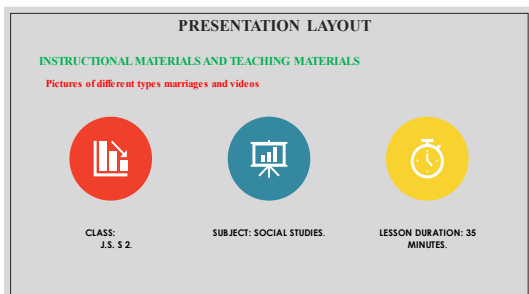
The population of this study comprised all junior secondary school in Ilorin, metropolis. The students in their second year in secondary school, Junior secondary School II (JSS2) were chosen because the developed audio-visual comprised of subject content of JSS2 curriculum. The target population comprised of junior secondary school student in Ilorin. This study consisted of two junior secondary school in Ilorin metropolis and the population consisted of 50 students.

Three research instruments were developed for this study. They are audio-visual

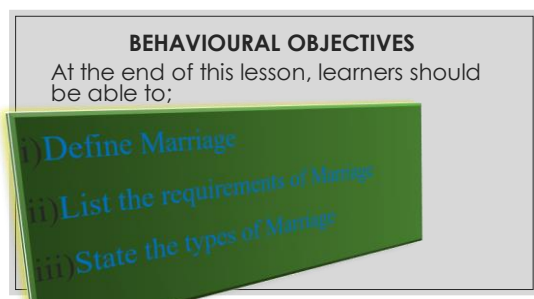
package, expert validation questionnaire, audio-visual test instrument. A power point package with the topic “marriage” was used in the junior secondary school to test the effect of audiovisual on student’s academic performance in social studies in junior secondary school. The PowerPoint package consisted of 32 slides. slide 1- Title, slide 2- Learning objectives, slide 3- Meaning of marriage, slide 4- 8 (Requirements of marriage), slide 9- 19 (Types of marriage), slide 20- 25 (Forms of marriage), slide 26- 27 (Purpose of marriage), slide 28 – 31 (Conditions of marriage), slide 32 (Thanks for listening).



**Figure 1.** First Slide of the Presentation



**Figure 2.** Layout of the Presentation



**Figure 3.** Behavioural Objectives

The validity of this instrument was established by presenting the PowerPoint package to experts for clarity, appropriateness, correctness, adjustment and other criteria needed. Then, it was taken to three audio-visual experts in the audio-visual department/section in the department of Educational Technology, Ilorin. The researcher created a validation form to test the effectiveness and validity of the PowerPoint package.

A letter for introduction was taken to the authority of the schools to seek permission to conduct the research in their school. Thereafter, ethical issues were considered as respondents was not coerced to participate in the study. Students and parents’ consents was sought to give permission in this study. All data collected were kept confidential. Furthermore, all authors whose work were cited were duly referenced.

The data collected was subjected to descriptive and inferential statistics. Percentage and mean were used to answer the research questions. Hypothesis one and hypothesis two were tested with t-test. All hypotheses were tested at 0.05 level of significance.

## RESULTS AND DISCUSSION

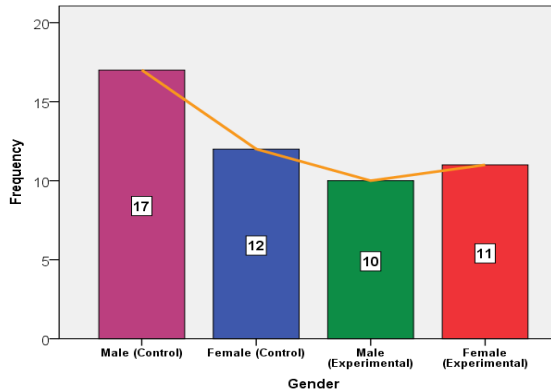
In this section researcher present the data gathered and analysis result.

**Table 1.** Respondents Data based on their Gender

	Groups	Gender	Frequency	Percent
Experimental		Male	10	47.6
		Female	11	52.4
		Total	21	100.0
Control		Male	17	58.6
		Female	12	41.4
		Total	29	100.0

Table 1 shows that male and the female respondents formed the study of the total sampled respondents with 17 (58.6%) are male while 12 (41.4%) females formed different percentage of the total sampled respondents in the control group respectively. Also, 10

(47.6%) are male while 11 (52.4%) females formed different percentage of the total sampled respondents in the experimental group respectively.



**Figure 4.** Graphical Illustration of Respondents' Gender

The illustration of respondents' gender comparison can be by the Figure 4.

**Table 2.** Performances of Students in Social Studies

S/N	Control Group		Experimental Group	
	Gender	Scores	Gender	Scores
1.	1.00	10.00	1.00	18.00
2.	2.00	15.00	1.00	16.00
3.	2.00	16.00	2.00	20.00
4.	1.00	12.00	2.00	18.00
5.	1.00	6.00	1.00	18.00
6.	2.00	13.00	2.00	18.00
7.	2.00	14.00	2.00	16.00
8.	1.00	12.00	1.00	17.00
9.	2.00	15.00	2.00	17.00
10.	1.00	15.00	1.00	14.00
11.	1.00	10.00	2.00	18.00
12.	2.00	15.00	1.00	17.00
13.	1.00	14.00	1.00	19.00
14.	1.00	14.00	2.00	18.00
15.	2.00	15.00	2.00	17.00
16.	2.00	14.00	2.00	19.00
17.	2.00	10.00	2.00	20.00
18.	2.00	14.00	1.00	20.00
19.	1.00	12.00	1.00	18.00
20.	1.00	6.00	2.00	18.00
21.	1.00	12.00	1.00	17.00
22.	2.00	16.00		
23.	1.00	13.00		

24.	2.00	16.00
25.	1.00	17.00
26.	1.00	12.00
27.	1.00	11.00
28.	1.00	15.00
29.	1.00	5.00
Mean	12.57	16.48

The result on the effectiveness of audio-visual on student's academic performance was presented in table 2. The scores of each student in both the control group and experimental group was presented accordingly. The mean of the students' performance that were taught marriage with the conventional method was 12.57 while mean of the students' performance that were taught marriage with the audio-visual media was 16.48. The mean gain of 3.91 established that audio-visual method of teaching had positive effect on student's academic performance.

**Table 3.** Mean Differences between Male and Female Student Performance in Social Studies

Gender	N	Mean	Std. Dev
Male (Control)	17	11.5294	3.33762
Female (Control)	12	14.4167	1.67649
Male (Experimental)	10	17.4000	1.64655
Female (Experimental)	11	18.0909	1.22103
Total	50	14.8400	3.55344

The differences between male and female students' performance in social studies are revealed in table 3. The performance of male students in the control group was 11.53 while the performance of female students in the control group was 14.42. Also, the performance of male students in the experimental group was 17.40 while the performance of female students in the experimental group was 18.09. The overall mean difference between the male and female students in both groups was 2.58. This established that female students perform better

in social studies more than their male counterparts.

**Table 4.** T-test on Significant Difference on Effect of Audio-Visual Aids

Group	N	Mean	Std. Dev	df	T	Sig. (2-tailed)
Control	29	12.5714	2.82084			
Experimental	21	16.4828	3.12388	48	-4.55	0.00

Table 4 indicates that  $t(48) = 4.55$ ,  $p = 0.00$ . This means that the stated null hypothesis was rejected. This was as a result of the t-value of 4.55 resulting in 0.00 significance value which was less than 0.05 alpha value. By implication, the stated null hypothesis was established thus: There was significant difference between the performance of student taught using audio-visual aids and those taught other aids in favour of the experimental group.

**Table 5.** T-test on Significant Difference between Performance of Male and Female Students

Group	Gender	N	Mean	Std. Dev	df	T	Sig. (2-tailed)
Control	Male	17	11.529	3.337	27	-2.75	0.01
	Female	12	14.416	1.676			
Experimental	Male	10	17.400	1.646	19	-1.10	0.29
	Female	11	18.090	1.221			

The t-test result on the significant difference in the performance of male and female students taught Marriage using audio visual aids and the conventional method was shown in Table 5. It indicates that  $t(48) = 2.75$ ,  $p = 0.01$  for the control group. This was as a result of the t-value of 2.75 resulting in 0.00 significance value which was less than 0.05 alpha value. Also,  $t(48) = 1.10$ ,  $p = 0.29$  for the experimental group. This was as a result of the t-value of 2.75 resulting in 0.00 significance value which was less than 0.05 alpha value. By implication, the stated null hypothesis was established thus: There was significant difference in the performance of male and female students taught Marriage using the conventional method in favour of the

females but there was no significant difference in the performance of male and female students taught Marriage using audio visual aids.

## Discussion

People learn in different ways, some are extra ordinarily good at retaining information fed to them orally. And other absorb and retain a great deal of information they have read. Others need visual stimulants or cues to facilitate learning. Most people however require a combination of the above method and so audio-visual aids, books and even practical application are an excellent aid for assuring that students have the best possible opportunity to retain the information being given to them (Shapovalenko, 2010). The result on the effectiveness of audio-visual on student's academic performance established that audio-visual method of teaching had positive effect on student's academic performance. This finding is in line with findings and recommendations of many previous studies which confirmed the positive effect of audio-visuals on students' academic performance (Saldarriaga, 2021). Peden, Mercer & Tatham (2016) revealed that audio-visuals are the best tools for making teaching effective and the best dissemination of knowledge. They are used in classrooms to encourage teaching and learning process and make it easier and interesting. The audio-visual aids are applied directly for developing professional skills for example skills of designing various construction projects, interiors, cars, industrial goods, biology, chemistry and medicine labs.

Findings of the study also revealed that female students perform better in social studies more than their male counterparts. In contrast to this finding, Agbaje and Alake (2014) pointed out that there is no significant gender difference in student's academic achievement and retention in various subjects. This study also showed that there was significant difference between the performance of student taught using audio-visual aids and those taught with other aids in favour of the experimental group. In conformity to this finding, Ossai-Ugbah, Ogunrombi, & Ameh, (2012) unanimously agreed that audio-visual

materials are very important and useful in education because, the normal learner in as far as the functions of his preceptor mechanisms are concerned, gain understanding in terms of multiple impression recorded through the eye, ear, touch and other series.

The findings moreover showed that there was significant difference in the performance of male and female students taught Marriage using the conventional method in favour of the females but there was no significant difference in the performance of male and female students taught Marriage using audio visual aids.

Based on the findings and discussions of the study the following implications were drawn. The findings have strong implications on the teaching and learning of social studies. Audio-visual method of teaching had positive effect on student's academic performance. Thus, this shows that that conventional method of teaching is less effective and performance oriented. Female students performed better in social studies than their male counterparts. Thus, this in one way or the other affect the overall performance of the male students in social studies in the standardized examination.

However, the following limitations should be noted about this study. This study was limited to junior secondary school in Ilorin metropolis and the result may not be generalized to other junior secondary school within and outside Nigeria. Also, this study was limited to only two junior secondary school in Ilorin metropolis, thus the findings may not be generalized to other schools in Ilorin metropolis.

## CONCLUSION

In conclusion, the findings of the study showed that female students performed better in social studies more than their male counterparts. Also, students performed better while teaching them with audio-visual aids than when taught using the conventional method. Thus, this indicates a positive effect on the students' academic performance in the junior secondary school.

Based on the findings and discussion of the study the following recommendation are proffered; 1) School authorities must take into consideration best type of audio-visual aids to

be used to teach their students when they are taken the course, 2) Curriculum planner must be careful in designing material for the purpose of teaching social studies as students tends to know what they see and hear. Hence, audio-visual aids should possess the characteristics of visibility, sufficiency, simplicity, attraction, clarity and other good qualities, 3) Adequate supervision, monitoring and the use of audio-visual in teaching social studies by teachers of the schools should be encouraged and given adequate attention.

## REFERENCES

- Abdullahi, O. E. (2015) Relationship among achievement motivation, self esteem, locus of control and academic performance of Nigerian. *The Nigerian Journal of Guidance and Counselling*, 7(1), 130-141. <https://doi.org/10.4314/njgc.v7i1.37048>
- Agbaje R. O., & Alake E. M. (2014) Students' variable as predictor of secondary school student's academic achievement in science subject. *International Journal of Scientific and Research Publication*, 4(9), 1-5.
- Ajai, J. T., & Imoko, B. I. (2015). Gender differences in mathematics achievement and retention scores: A case of problem-based learning method. *International Journal of Research in Education and Science*, 1(1), 45-50.
- El Said, G. (2017). A cloud computing-based model of e- commerce adoption for developing countries. *Journal of Electronic Commerce in Organisations*, 15(3), 64-82. <http://services.igi-global.com/resolvedoi/resolve.aspx?doi=10.4018/JECO.2017070104>
- Federal Republic of Nigeria. (2014). *National Policy on Education*. Lagos: NERDC Press.
- Ibe E, Abamuche J. (2019). Effects of audiovisual technological aids on students' achievement and interest in



- secondary school biology in Nigeria. *Heliyon*, 5, 1-6, e01812. <https://doi.org/10.1016/j.heliyon.2019.e01812>.
- Kustandi, C. (2016). *Manual and Digital Learning Media*. Bogor: Ghalia Indonesia.
- Lisenbee, P. S. (2016). Generation gap between students needs and teachers' use of technology in the classroom. *Journal of Literacy and Technology*, 17(3), 100-123. [http://www.literacyandtechnology.org/uploads/1/3/6/8/136889/jlt\\_v16\\_3\\_lisenbee.pdf](http://www.literacyandtechnology.org/uploads/1/3/6/8/136889/jlt_v16_3_lisenbee.pdf)
- Merriam Webster. (2021). Definition of Technology, *Merriam Webster Dictionary*. <https://www.merriam-webster.com/dictionary/technology>
- Mushtaq, I., & Khan, S. N. (2012). Factors affecting students' academic performance. *Global Journal of Management and Business Research*, 12 (9), 17-22. [https://globaljournals.org/GJMBR\\_Volume12/3-Factors-Affecting-Students-Academic.pdf](https://globaljournals.org/GJMBR_Volume12/3-Factors-Affecting-Students-Academic.pdf).
- Natoli. (2011). *The Importance of Audio-Visual in a Teaching and Learning*. <https://www.helium.com/channels/224-early-childhood-ed>
- Ossai-Ugbah, N. B., Ogunrombi, S. A., & Ameh, I. O. (2012). Motivating use of Audio-Visuals in a Nigerian Technological University Library. *Journal of Educational and Social Research*, 2(1), 217. Retrieved from <https://www.richtmann.org/journal/index.php/jesr/article/view/11791>
- Peden, R. G., Mercer, R., & Tatham A. J. (2016) The use of head-mounted display eyeglasses for teaching surgical skills: A prospective randomized study. *International Journal of Surgery*, 34,169-173. <https://doi.org/10.1016/j.ijsu.2016.09.002>
- Raja, R., & Nagasubramani, P. C. (2018). Impact of modern technology in education. *Journal of Applied and Advanced Research*, 3(1), 33-35. <https://dx.doi.org/10.21839/jaar.2018.v3.S1.165>
- Robinson, L., Cotten, S. R., Ono, H., Quan-Haase, A., Mesch, G., Chen, W., Schulz, J. Hale, T. M., & Stern, M. J. (2015). Digital inequalities and why they matter. *Information, Communication & Society*, 18(5), 569-582. <https://doi.org/10.1080/1369118X.2015.1012532>.
- Sahin, M., & Secer, S. S. Y. E. (2016). Challenges of using audio visual aids as warm up activity in teaching aviation English. *Educational Research and Reviews*, 11(8), 860-866. <https://doi.org/10.5897/ERR2016.2796>
- Saldarriaga, J. (2020) *Audio-visual Aids, The Good and The Bad and The Memorable*. Retrived 1 October 2021 from <https://bunnystudio.com/blog/library/audiodloads/audiovisualaidsthegoodthebad-and-the-memorable>
- Shamsideen, S. A (2016). Impact of audio-visual materials in the dissemination of knowledge for facilitators in some selected literacy centres in Oshodi/Isolo local government area. *African Educational Research Journal*, 4(1), 19-24. <http://www.netjournals.org/pdf/AERJ/2016/1/16-014.pdf>
- Shapovalenko, S.G. (2010). *Instructional Materials*. Retrieved from the website of The Free Dictionary. <http://encyclopedia2.thefreedictionary.com/Instructional+Materials>
- Tang, D. K. H., & Intai, R. (2017). Effectiveness of audio-visual aids in

teaching lower secondary science in a rural secondary school. *Asia Pacific Journal of Educators and Education*, 32, 91-106.

<https://doi.org/10.21315/apjee2017.32.7>

Yusuf, T., Onifade C. A., & Bello O. S. (2016). Impact of class size on learning behavior and general attitudes of students in secondary schools in Abeokuta, Ogun State, Nigeria. *Journal of Research Initiatives*, 2(1), 1-16. <https://digitalcommons.uncfsu.edu/jri/vo12/iss1/12/>