



POWER-POINT INSTRUCTIONAL STRATEGY UTILIZATION AND THE ACADEMIC ACHIEVEMENT OF SS II ENGLISH LANGUAGE STUDENTS IN OBIO/AKPOR LOCAL GOVERNMENT AREAS OF RIVERS STATE

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Abstract

This study examined the effect of PowerPoint instructional strategy utilization in the classroom on the academic achievement of SS II English language students in Obio/Akpor Local Government Area of Rivers State. The constant poor academic achievement of English Language students in external examinations has called for an investigation into how their teachers utilize available instructional materials/strategies such as PowerPoint to enhance concept understanding. Two research questions and two null hypotheses were formulated to guide the study. The instrument used for data collection was English language Achievement Test (EAT). The instrument was validated by two experts in English language and its reliability coefficient was found to be 0.86 using Kuder Richardson formula 20 which indicates positive reliability. The data obtained from the study were analyzed using mean, standard deviation and independent t-test. The two hypotheses were tested at 0.05 level of significance. The results showed that there was significant difference in the English language achievement of students taught using PowerPoint instructional strategy and those taught with lecture methods. The above finding implies that PowerPoint instructional strategy utilization enhances effective teaching and learning of SS II English Language students. The study recommended for training and retraining of teachers through workshops, seminars, in service programs on how to use or produce PowerPoint instructional materials/instructional strategy. The result of these training would be massive utilization of PowerPoint instructional strategies by teachers which would also translate to better academic achievement by English language students in external examinations.

Keywords: English Language, Academic achievement, utilization, instructional strategies.



Introduction

It has been observed by some researchers from diverse fields in education that instructional materials/strategies influence the teaching and learning outcomes, particularly in promoting students' academic achievements, (Job, 2017, Okworo & Job, 2017 and Aulobi, 2019). Education in its simplest form is drawing learners out of ignorance, and this is related to the acquisition of skills to earn a living. This, therefore, suggests that the concept of education keep expanding in scope in terms of definition and programmes. In the same vein, if education program is to be planned and if efforts for continued improvement are to be made, it is very necessary to have some concepts and goals that are being aimed at by these educational objectives, which may become criteria by which materials are selected, contents are outlined, instructional procedures are developed and human resources are also considered. It is important to note that the basic aim of education must be to lead students towards self-learning and life-long learning and this aim can be achieved through the use of audio-visual instructional material as it improves the learning capacities of individual students i.e. learning experience that is worth memorable, (Job, 2018).

Audio- Visual materials are learning content that uses sound (auditory stimuli) and vision (visual stimuli). They include materials such as: PowerPoint presentations that complement the standard lecture; Video clips with voiceover, moving or stationary footage; Interactive whiteboard; Video conferencing; Television; Computer graphics; Projected images that complement the educator's speech; Graphs, spreadsheets, charts, and other written materials that complement and expand the discussed topic; Audio materials, Physical objects and 3D models. (Anton, 2021).

It is pertinent to assert that these materials used by teachers to teach and motivate learners at the primary and secondary school levels of our education system is important in practical classroom interaction and successful transfer of knowledge from the teacher to the learners. Instructional materials are equally any teaching/learning materials which assist teachers to make their lessons explicit to learners. These materials are also used to transmit information, ideas and notes to learners. Instructional materials further include such visuals and audio-visuals like pictures, flashcards, posters, charts, tape recorder, radio, video, television, computers among others. These materials serve as supplement to the normal processes of instruction. The use of relevant instructional media in teaching promotes and improves students' learning outcome. Using instructional media engage students, aids development of knowledge, motivates in the topic taught and also illustrates concepts. Job and Opeyemi (2019) stated that the use of animations, video and audio clips make the lessons attractive and effective. Instructional media are essential and significant tools needed for teaching and learning to promote teachers' efficiency and improve students' learning outcome. They enable the teacher and students to participate actively in a learning session.



PowerPoint is a presentation programme created by Robert Geskins and Dennis Austin in 1987. It could be an effective tool to present materials in the classroom and encourage students' learning. It is often used to project visuals that would have otherwise been difficult to bring to classroom. slide headline design "affects audience retention," and they conclude that "succinct sentence headlines The utilization of PowerPoint can help the teacher present information in multiple ways through the projection of colours, images, and videos for the visual mode; sound and music for the auditory mode; text and writing prompts for the reading/writing mode; and interactive slides that ask students to do something, (Northern illinois, 2020). Alley, Schreiber, Ramsdell, and Muffo (2006) suggest that PowerPoint are more effective" in information recall than headlines of short phrases or single words.

PowerPoint presentation can be used as an instructional strategy and instructional material. It is an instructional material when the teacher uses it with varied content to drive home his explanations. On the other hand, it is an instructional strategy when the entire content built-in and timed-slide show is adopted as a stand-alone for the class teaching. At this level, the teacher instructs from the back or becomes a mere facilitator. There are varied advantages in utilizing PowerPoint for classroom teaching, which includes;

PowerPoint saves time and energy—once the presentation has been created, it is easy to update or modify for other courses. It is portable and can be shared easily with students and colleagues. And it supports multimedia, such as video, audio, images, and animation. However, there are constraints in the application of PowerPoint in the classroom, viz;

PowerPoint could reduce the opportunity for classroom interaction by being the primary method of information dissemination or designed without built-in opportunities for interaction. This situation may be obvious when the PowerPoint is designed as a stand-alone or an instructional strategy. Also, PowerPoint could lead to information overload, especially with the inclusion of long sentences and paragraphs or lecture-heavy presentations with little opportunity for practical application or active learning. It could "drive" the instruction and minimize the opportunity for spontaneity and creative teaching unless the instructor incorporates the potential for ingenuity into the presentation. This situation could be common when the teacher solely depends on the information as infused in the PowerPoint.

In Nigeria, English language is the official language of communication, particularly in day-to-day administration of the government. The use of English language transcends governance as it is one of the major criteria for admission into the tertiary institutions in Nigeria. A student wishing to further their education in any higher institution must score credit pass in English language. This, therefore, underscores the place of this core subject in Nigeria as special attention is given to even teachers of the subject.

Every teaching and learning situation are made up of learners of varied characteristics, levels of understanding, social background, attitude and interest. Through the use of instructional



materials, the teacher and students would learn to formulate their own objectives and assess themselves. The learner would become more central, the old notion of seeing a teacher as being encyclopedic would cease to exist. Going by the above, therefore, one can see clearly the importance of instructional materials and the non-utilization of it in the classroom could lead to poor performance both in teaching and learning. The students may not be properly motivated and more importantly, associate concepts with reality, which tends to make them scientifically oriented. The use of instructional media helps to reduce abstractions, and particularly, English language which is a foreign language and stands as a second language to the learner. Many teachers over the years have endeavoured to select instructional materials that relate to the content of English language subject, in order to facilitate in-depth understanding of their lessons, and to make learning of English language interesting and attractive to the learner. Different strategies such as the audio, visual, and audio-visual teaching aid have been developed and used in the teaching of English language overtime, yet, records still show a significant increase in the poor performance of students in English language examinations.

In making use of any instructional materials, factors that influence their use must be considered, such materials must be previewed that is, having full knowledge of the material; prepare the environment where it will be used; prepare audience by means of making sure that the materials to be used will attract attention, arouse, motivate and provide the rationale for their use in the beginning, middle or end. The effectiveness of utilizing appropriate instructional materials in teaching and learning of English language is also dependent on quality instructors. Instructional material being part of teaching and learning has to contribute to the effectiveness of the teaching and learning process, (Job, 2018) since it directs and informs the learners more on how to understand the subject. However, this study tends to examine PowerPoint instructional material utilization and the academic achievement of secondary school students in English language in Obio/ Akpor Local Governments of Rivers State.

This study is hinged on constructivist theory of learning, which is based on the idea that learners are active participants in their learning process. The theory postulates that knowledge is constructed based on experiences, i.e., as events occur, each person reflects on their experience and incorporates such new ideas with their prior knowledge. This theory also asserts that learners develop schemas to organize acquired knowledge. Some of the proponents of this learning theories include Dewey, Piaget, Vygotsky, Gagne and Bruner. The theory of constructivist learning is vital to understanding how students learn. The idea that students actively construct knowledge is central to constructivism. Students add (or build) their new experiences on top of their current foundation of understanding. Woolfolk (1993) opined that “learning is active mental work, not passive reception of teaching”. The theory of constructivism has many elements which relate to Audio-Visual utilization in the classroom.

- i. **Constructivism promotes Active Learning.** This theory emphasizes that learners actively construct their own knowledge by engaging in meaningful experiences.



- Audio-visual materials, therefore, can facilitate active learning by providing visual representations, videos, or interactive multimedia that encourage students to explore, discover, and make connections between new information and their prior knowledge.
- ii. Constructivism promotes learning in authentic contexts that reflect real-world situations. Audio-visual aids can help create authentic learning environments by presenting videos, simulations, or case studies that represent the application of knowledge in real-life scenarios. This allows students to see the relevance and practicality of the concepts being taught.
 - iii. Constructivism recognizes that learners bring their unique perspectives and experiences to the learning process. Audio-visual materials can incorporate or blend different voices, viewpoints, and cultural representations, which will provide students with diverse views and helping them understand different ways of thinking and knowing.
 - iv. Constructivism emphasizes the importance of social interaction and collaboration in learning. Audio-visual aids can support collaborative learning by incorporating group discussions, problem-solving activities, or video-based interactions that encourage students to engage in meaningful dialogue, share ideas, and negotiate meaning with their peers.
 - v. Constructivism highlights the significance of reflection and metacognition, where students actively reflect on their learning processes and monitor their own thinking. Audio-visual aids can include self-assessment tools, reflection prompts, or video-based self-reflection activities that encourage students to think about their learning, identify misconceptions, and make adjustments to their understanding.
 - vi. Constructivism places the learner at the center of the learning process. Audio-visual aids can be tailored to the individual's needs, interests, and learning styles of students, allowing for personalized learning experiences. They can provide multiple representations of information, allowing students to choose the mode of presentation that best suits their learning preferences.

The poor performance of Students in English language, particularly in external examinations (WAEC & NECO) in Obio/ Akpor Local Government of Rivers State may partly be attributed to poor usage or lack of sufficient instructional materials to teach. Most students are losing interest in the subject due to the attitudes of teachers towards teaching English language without the use of instructional materials which tends to affect students' academic achievement in the subject. Researches consistently show that teacher's usage of instructional materials may be a powerful determinant of student achievement gains, (Okworo& Job, 2017, Anulobi, 2019).

Also, many of the school authorities have very lukewarm attitudes over the provision of needed tools, equipment or materials required for effective teaching of English language, (Ibe, 2016 &Anulobi, 2019). This nonchalant attitude tends to retard genuine efforts of some teachers of English language in the secondary schools. In spite of the emphasis being placed on English



language as one of the core subjects in secondary schools, the provision and enforcement of the utilization of learning materials for teaching/learning this subject is lacking the required attention. In view of these difficulties, most teachers of English language still resort to the theoretical method of teaching the subject (i.e., explaining without an object to make learning real) which makes learning not interesting to learners. Hence, this study is to establish if the none utilization of instructional materials actually affect the academic achievement of SS2 English language students in the selected secondary schools in Obio/ Akpor Local Government Area of Rivers State.

The main objective of this study is to establish if instructional material utilization has any effect on the academic achievement of secondary school students in English language in selected secondary schools in Obio/Akpor Local Government Area of Rivers State.

The study sought to determine the effects of PowerPoint instructional material utilization on the academic achievement of SS2 English language students in selected secondary schools in Obio/Akpor Local Government Area of Rivers State.

Also, the study sought to determine the difference in the mean scores of male and female English language students taught using PowerPoint material and those that without conventional method in Obio/Akpor Local Government Area of Rivers State.

The underlisted research questions were developed to guide the study:

1. What is the effect of PowerPoint instructional material/strategy utilization on academic Achievement of SS2 English language students in the selected schools in Obio/Akpor Local Government Area of Rivers State?
2. What is the difference in the mean scores of male and female SS2 English language students taught using PowerPoint instructional material/strategy and those taught with lecture methods in the selected secondary schools in Obio/akpor Local Government Area of Rivers State?

H₀₁: There is no significant effect of PowerPoint instructional material/strategy utilization on the academic achievement of SS2 English language students in Obio/Akpor Local Government Area of Rivers State.

H₀₂: There is no significant mean difference of PowerPoint instructional material/strategy utilization on male and female SS2 English language students' academic achievement in Obio/Akpor Local Government Area of Rivers State.

The design adopted for this study was quasi-experimental design, specifically, the pretest-posttest control group design. This design was used because the students were left in their intact classes to avoid disruption of classes. The population of the study consisted of a total of one thousand, eight hundred and sixty (1860) students in senior secondary two (SS II) 2022/2023 academic session in the thirteen public secondary schools in Obio/Akpor Local Government Area of Rivers State.



The sample comprised of seventy (70) students in senior secondary two (SS II) drawn from two schools in Obio/Akpor Local Government Area.

The instruments used for the study were the English Achievement Test, (EAT) and English Interest Inventory (EII). The English Interest Inventory had 10 items on English interest with four options of Strongly Agree (SA, Agree (A), Disagree (D) and Strongly Disagree (SD); while EAT had twenty (20) multiple item questions with four (4) options in each question. The test questions were set on the use of grammar. The instrument had two sections, sections A and B. Section A contained students' information such as number, gender, class and test instructions while section B contained the twenty (20) multiple item questions on English. One (1) mark was awarded for each correct option chosen by students while an incorrect option attracted a score of zero (0). The test was based on a maximum score of twenty (20) and a minimum score of (0)

The English Achievement Test (EAT) was validated by two secondary school English teachers of above eight years teaching experience and one lecturer from the Department of Communication Arts, Faculty of Humanities, Ignatius Ajuru University of Education. These experts made the necessary corrections which were incorporated in the final copy of the instrument. The instrument English Achievement Test (EAT) was trail-tested to establish its reliability with twenty (20) English language students who were from the population of the study but not part of the sampled schools. The data was collated and analyzed using Kuder-Richardson formula-20, which yielded the reliability coefficient of 0.86, which means a positive reliability.

Permission was obtained from principals of the selected schools to carry out the research. Students in the first school were taught using lecture method (traditional method) only while students in the other schools were taught using PowerPoint (Audio-Visual) as instructional strategy, (stand-alone). The PowerPoint tools were used to transfer materials, do assignments and as discussion groups among students during or after class periods. The students in this group were given these PowerPoints which they listened to, viewed as many times as they required.

The two groups of students from the three selected schools were taught for the period of six weeks as prescribed by the scheme of work. After the teaching and learning process, the students were administered with English Achievement Test (EAT). The test scripts were collected, marked and scored. The data collected for the study was used to answer the research questions and to test the hypotheses. Mean and standard deviation were used to answer research questions while t-test statistics was used to test the hypotheses. The hypotheses were tested at 0.05 level of significance.



Results

Table 1: Mean and Standard Deviation of Students Taught using PowerPoint Instructional Strategy and those Taught with Lecture Method

Groups	N	Pre-test	Post-test	Mean	Pre-test	Post-test
		\bar{X}	\bar{X}	Gain	SD	SD
Experimental	40	6.70	10.80	4.10	1.98	1.57
Control	30	8.07	8.55	0.48	1.19	1.20

In Table 1, pretest mean is 6.70, experimental group and the standard deviation for pretest is 1.98 for the experimental group while control group has the mean score of 8.07 and standard deviation of 1.19 meaning that mean score for control group is higher than mean score of experimental groups in the pretest. But after the administration of the PowerPoint instructional strategy, the mean score of experimental groups became 10.80 and the standard deviation 1.35; while the mean score for control group after testing is 8.55 and standard deviation is 1.20, which means that the mean score of experimental groups became higher, that means there is effect of the PowerPoint instructional strategy in the academic performance of English language.

Table 2: Mean and standard Deviation of male and female students taught with PowerPoint instructional strategy

Groups	N	Pre-test	Post-test	Mean	Pre-test	Post-test
		Mean	Mean	Gain	SD	SD
Male	40	7.70	8.40	0.70	1.34	1.35
Female	30	8.45	8.70	0.25	0.87	1.03

Table 2 shows that the mean score for male in the pretest is 7.70 while standard deviation for male pretest is 1.34 and the mean gain is 0.70. Consequently, the post-test control group for male is 8.40 and standard deviation is 1.03, mean gain 0.25. So, it shows that female performed better than male with the used of the PowerPoint instructional strategies.

**Table 3: Comparison of the mean scores of the experimental group and control group.**

Groups	N	\bar{X}	SD	SE	Df	Tcal	P-Value
All Control Posttest	40	8.55	1.20	0.19	78	7.20	0.000
All Experimental Posttest	30	10.80	1.57	0.25			

In table 3, the experimental group taught using the PowerPoint instructional strategies had higher mean score ($x = 10.80 + 1.57$), then the control group taught using conventional method ($x = 8.55 + 1.20$), which revealed statistically significant difference, $+ (78) = 7.20$, $p = 0.000$.

Table 4: Comparison of the post-test mean achievement scores of male and female in the experimental group

Groups	N	Mean	SD	SE	Df	Tcal	P-Value
Male Experimental Posttest	40	10.30	1.53	0.34	38	2.10	0.043
Female Experimental Posttest	30	11.30	1.49	0.33			

The result of the analysis shown in Table 3 the mean achievement scores of females experimental group is 11.30 and that of the males mean achievement score is calculated t-value 2.10 at p-value of 0.00, that means we reject the null hypothesis and conclude that there is significant difference in mean achievement score between male and female students taught using the PowerPoint instructional strategies.

Discussion.

The result of the study revealed that there is significant difference in the academic achievement of students between control and experimental after the utilization of PowerPoint instructional materials/strategy. This finding validates the position of Alley, Schreiber, Ramsdell, and Muffo(2006), who suggests that PowerPoint slide headline design “affects audience retention,” and they conclude that “succinct sentence headlines are more effective”. It is also in line with the findings of (Enemugha, 2018; Okworo 2018; Anulobi, 2019; Eshiet, 2019). They found that the use of the Asynchronous video or pre-recorded video instructional materials in teaching Physics influenced the students’ academic achievement. Also, they affirmed that they are effective in teaching owing to their ability to capture and hold attention as well as provide direct interaction of students with what is learnt. Also, a critical look at the table reveals that the females mean achievement score is higher than the male which implies that the PowerPoint instructional strategies have more effect on the mean achievement score of female students. This further



shows that gender has effect on the use of the PowerPoint instructional strategies in the learning process.

The use of the PowerPoint instructional materials, which is a variant of audio-visual material is effective and resulted to more learning in short time and makes the students retain what is learnt. The PowerPoint instructional materials provide experiences not easily obtained through other media, contribute to the efficiency and variety of learning.

The position and impression of Newby (2016) about the Asynchronous video instructional strategies which is akin to PowerPoint materials is that they complement or play supportive role in teaching in the bid to bring about adequate implementation of the curriculum. It is in these circumstances that the result of hypothesis two shows that there is significant difference in the academic achievement of the group taught using the PowerPoint instructional materials and the group taught without the PowerPoint instructional materials. Furthermore, the study also shows that the use of the PowerPoint instructional materials has greater influence in the academic achievement of female students than male students, because females pay more attention when watching films than the males, so that serves as an advantage to the female students, that is why the mean achievement scores of females is more than that of the male students which concludes that there is gender effect on the use of the Audio-video instructional strategies.

Conclusion

The following conclusion can be deduced from the outcome of this research study:

1. The use of PowerPoint instructional strategies in teaching and learning process enhanced the academic performance of students in English language, in Obio/Akpor local government area of Rivers State.
2. Female students performed academically better than their male counterpart after exposure to the PowerPoint instructional strategies.

Recommendations

The following recommendations are made:

1. The use of the PowerPoint instructional strategies for teaching should be encouraged among teachers of English language in secondary schools to enhance effective academic achievement of their students.
2. Professionals and research organizations such as English language Students' Association of Nigeria, National Teacher Institute (NTI) and The Nigerian Educational and research Development Council (NERDC) to carry out seminars, workshops and conferences and should incorporate topics on the use of the PowerPoint instructional strategies in English language.
3. The Federal and State Ministries of Education should sponsor English language teachers on refresher training programme on design, selection and utilization of the PowerPoint instructional strategies.



References

- Alley, M., Schreiber, M., Ramsdell, K., & Muffo, J. (2006). How the design of headlines in presentation slides affects audience retention. *Technical Communication*, 53(2), 225-234. Retrieved from <https://www.jstor.org/stable/43090718>
- Anulobi, J.J.C. (2019). Effect of the use of video compact disc package (VCDIP) on the academic performance of junior secondary school Fine Art in Owerri. *Journal of Education Technology and Instruction (JETI)*1(1),31-36.
- Brill, F. (2016). Powerpoint for teachers: Creating interactive lessons. *Linkedin Learning*. Retrieved from <https://www.lynda.com/PowerPoint> tutorials.
- Gagne, R. M. (2015). *The conditions of learning (4th Ed.)*. Holt, Rinehart & Winston.
- Good, T. L., Brophy, J. E. (2019). *Educational psychology: A realistic approach (4th Ed.)*. Longman
- Heinich, Modenda, Rusell & Smaldino (2019). *Integrating technology into curriculum*. Retrieved from: <http://ed205.net/assure.html>
- Ibe, D.O. (2016). Effects of gender and teaching methods on science process skills acquisition among senior secondary school students. *International Journal of Educational Research (INJER)*, 1(1), 141-147.
- Job, G. C. (2017). The implication of improvised instructional materials on gender and academic performance and retention in SS II Biologystudents in Lagos State. *International Journal of Emotional Psychology and Sport Ethics (IJPSE)*, 19, 1372 – 1383.
- Job, G. C. & Opeyemi, A. (2020). The effects of video-taped instructional strategy on the academic achievement and retention of Chemistry students in Lagos State. *Journal of Educational Research on Children, Parents & Teachers*, 1(1), 45-57
- Newby, T.J., Stepich, D.A., Lehman, J.D. and Russel, J.D. (2016). *Educational technology for teaching and learning*. Merrill Prentice Hall.
- Northern Illinois University Centre for Innovation, Teaching and Learning. (2020). Teaching with PowerPoint. In *Instructional Guide for University Faculty and Teaching Assistants*. Retrieved from <https://www.niu.edu/citl/resources/guides/instructional> guide
- Okworo, S., & Job, G. C. (2017). Technical teachers' competency and utilization of information and communication technology (ICT) for effective instructional delivery in technical colleges in Akwa Ibom State. *International Journal of Educational Benchmark (IJEBS)*, 8(1), 99-108.
- West, R. E. (2021). Understanding how asynchronous video can be critical to learning success. In R. E. West & J. Borup (Eds.). *Teaching with Asynchronous Video*. Educational Technology books. https://edtechbooks.org/asynchronous_video/unbounded_by_time
- West African Examination Council (2010). May/June Chief Examiner's Report.