

improving visually impaired students' achievement in oral English: can the descriptive illustrative strategy provide help?

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## **Improving Visually Impaired Students' Achievement in Oral English: Can the Descriptive Illustrative Strategy provide Help?**

Ugochinyere Angelic Okereke<sup>a</sup>, Cajetan Ikechukwu Egbe<sup>a</sup>, Amuche Patricia Nnamani<sup>a,b\*</sup>, Patricia N. Uzoegwu<sup>a</sup>, Evelyn Oziri Ukoha<sup>a</sup>, Mkpoikanke S. Otu<sup>c</sup>

<sup>a</sup>Department of Arts Education, University of Nigeria Nsukka

<sup>b</sup>**Corresponding author**, Cajetan Ikechukwu Egbe, Department of Arts Education, University of Nigeria Nsukka ([cajetan.egbe@unn.edu.ng](mailto:cajetan.egbe@unn.edu.ng))

<sup>c</sup>Department of Educational Foundations, University of Nigeria Nsukka

### **Abstract**

Visually impaired students in inclusive classrooms usually find the study of oral English very difficult because the conventional strategy that teachers use in teaching it does not seem to help them to activate the mental imagery necessary to understand the contents, leading to their poor achievements. This study thus explored the efficacy of the descriptive illustrative strategy as a more responsive strategy to the needs of the visually impaired students in oral English. Adopting a quasi experimental design, fifteen visually impaired students from two secondary schools in Enugu State, Nigeria were taught oral English using the descriptive illustrative strategy for the experimental group and the demonstrative illustrative strategy for the control group. The study found significant improvement in the achievement of visually impaired students in the experimental group more than those in the control group.

**Keywords:** Achievement, Descriptive Illustrative, Oral English, Visually Impaired Students

### **1. Introduction**

There is a strong link between students' achievement in schools and the strategies teachers use in teaching the subject or skill. Research has shown that students with visual impairments suffer some handicaps in oral English based on the nature of the strategies that teachers adopt (**Fasanmi 2011**). Students with visual impairment have problems seeing the charts, diagrams and other instructional materials used by teachers in inclusive schools to teach oral English. In Nigeria and some other countries that take the West African Senior School Certificate Examination, oral English assessment is done through writing and this is usually made possible through the use of phonetic symbols. The International Phonetic Alphabet (IPA) refers to symbols developed to represent speech sounds such that each segment has a symbol representing it. These symbols were developed by phoneticians as a standard way of transcribing sounds on paper (**Englebretson 2009; Eguridu 2009**). At the Senior School Certificate Examination both the sighted and visually impaired students write the Test of Orals. The tactile equivalent is not given to the students and the visually impaired have to depend on any person he/she has recruited to read out the questions, leaving them in the dark as to the actual sounds that are being sought for. As a consequence, these students fail woefully in the oral English

examination. A focus group description organized with some visually impaired students (**Okereke 2019**) revealed that oral English, especially the phonetic symbols, poses more challenges to the visually impaired students than any other component of the English language. This arises from the fact that Oral English is taught and tested using the phonetic symbols and teachers do not seem to make effort to teach them how these symbols actually look like using detailed description or tactile material. They use the demonstrative illustrative approach which depends on gestures, charts and diagrams, and this favours the sighted students. This prevents the visually impaired students from coping with their sighted counterparts in the learning of Oral English, creating disparities that inclusive education is made to address (**UNESCO 1994**).

This paper contends that the use of the descriptive illustrative strategy whereby the teacher vividly describes the symbols and follows up with the tactile equivalent of the symbols will go a long way to alleviate the problem that visually impaired students suffer all over the world and remove whatever disparities that may have been created between the sighted students and their visually impaired counterparts in the learning of oral English. However, the extent to which the descriptive illustrative strategy can provide this help in learning oral English has not been established in literature. To provide answers to the problem of the study the researchers posed one research question: What is the effect of the descriptive illustrative strategy on the mean achievement scores of visually impaired students in oral English? One hypothesis was also tested at 0.05 level of significance: There is no significant difference in the mean achievement scores of visually impaired students taught oral English using the descriptive illustrative strategy and those taught with the demonstrative illustrative strategy.

The researchers conducted a quasi-experimental study that lasted for four weeks, during which the experimental group were taught oral English using the descriptive illustrative strategy while the control group were taught using the demonstrative illustrative strategy. Data were collected using the oral English Achievement Test, administered first as pre-test and subsequently as post-test. The data got were analyzed using mean and standard deviation to answer the research questions while Analysis of Covariance was used to test the hypothesis at 0.05 level of significance. The result indicated that the descriptive illustrative strategy improved visually impaired students' achievement in oral English more than the demonstrative illustrative strategy as there was statistically significant difference between the achievement of visually impaired students in both groups in favour of the group that was taught using the descriptive illustrative strategy.

## **2. Oral English**

The English language is one of the core subjects in the curriculum in Nigeria and other countries where English has the status of an official language. The teaching of English language in secondary schools focuses on many components like essay writing, comprehension and summary, grammar and oral English. Oral English is one of the important components and it is tested as a separate paper in the West African Senior School Certificate Examination. Oral English, as **Idoli and Ummana (2011)** define it, is an aspect of spoken language which students require for adequate skills in speech production. These skills needed include the individual's ability to combine the vowels and consonants (segmental features), that is, the combination of individual segments to form syllables and words; and to make these words meaningful by using the appropriate stress, intonation and

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rhythm (suprasegmental features). However, most students lack in these skills resulting in their failure in Oral English (**Fasanmi 2011**).

The objectives of teaching oral English in secondary schools are to ensure that students speak English intelligibly and effectively. Language intelligibility refers to how understandable one's speech is to the next person, especially when the interlocutors are from different linguistic backgrounds. It therefore requires of the second language speakers to use acceptable pronunciation, stress and intonation, in such a way that both the native and non-native speakers will make meaning of their speech.

In Nigeria, oral English is tested using multiple choice objective questions. Even with the weaknesses associated with the use of objective test format to assess oral or spoken skills, this has been used as the test format for nearly two decades. According to **Eguridu (2009)** this objective test format requires of the student to identify significant sound contrast in the vowel and consonant system of English (segmental features) and also to differentiate between stressed and unstressed syllables (suprasegmental features). Between these two features, the segmental features require sight more than the suprasegmental features as they rely on IPA symbols, diagrams and charts to teach them. The International Phonetic Alphabet (IPA) according to **Englebretson (2008)** is a standardized representation of the sounds of spoken language. It provides one symbol for each distinctive speech sound as well as the diacritics that slightly modify the pronunciation of the sounds. This poses a problem to the visually challenged who struggle with how these sounds are written using the phonetic symbols. At present, the Nigeria national curriculum in English language for secondary schools has not integrated the IPA Braille into the English language curriculum, yet oral English examinations are written using these symbols (**Eguridu, 2009**).

### **3. Visual Impairment**

Visual Impairment has been viewed in so many ways. In some literature it is used to refer to low vision only, while total vision loss is referred to as blindness. Some others use visual impairment and blindness interchangeably to refer to any form of vision loss (**Belay 2005; Maingi-Lore 2016**). According to **World Health Organization (2018a)**, visual impairment is a mild, severe or complete deviation from normal visual function. In this study visual impairment refers to severe vision loss or no vision. Visual impairment can be total or partial. Whereas total visual impairment can be referred to as blindness, moderate visual impairment, and severe visual impairment can be referred to as partial sightedness or low vision (**World 2018b**).

Visual impairment comes with some level of incapacitation. It presents some special needs which require adaptation and accommodation (**UNESCO 2018**). Some of the challenges visually impaired learners face include: delay in concept and academic development, learning through other senses rather than sight, individualised instruction, need for specialised skills as well as books; and skill development (**American Foundation for the Blind 2017a; Camey, Engbretson and Scammell 2003**). These needs and challenges according to **Camey, Engbretson and Scammell (2003)**, can be attributed to the fact that visually impaired students have few natural learning experiences. For instance, visually impaired students have difficulty or inability to read gestures or see pictures, diagrams and chats, these being the major instructional visual strategies used in teaching oral English

in classrooms in Nigeria. Hence, **Khochen (2014)** suggests that the teaching contents, as well as the instructional strategies, should be adapted to reflect the academic needs of visually impaired learners.

#### **4. Instructional Strategies**

Instructional strategies are those strategies the teacher uses in the course of instruction to ensure that learners are carried along with the aim of achieving the learning objectives. Thus, **Akdeniz (2016)** defines instructional strategies as practical ways of obtaining desired learning outcomes through the application of instructional approaches. It is one of the major factors that affect the academic achievement of the visually impaired students. The study conducted by **Maingi-Lore (2016)** shows that instructional strategies affect the performance of students with disabilities, including the visually impaired. This is owing to the fact that the primary sense upon which most traditional education strategies are based is sight (American Foundation for the Blind (**AFB**), **2017a**). Therefore, to accommodate the needs of the students with visual impairment, there is every need to adopt new strategies or modify the existing ones to suit their learning peculiarities. The current practice in Nigerian schools is that teachers demonstrate and illustrate using visual materials as stipulated in the curriculum of Senior Secondary Education developed by **NERDC (2007)**. This traditional strategy is the demonstrative illustrative strategy. Most teachers in secondary schools adopt this to teach oral English to both the sighted and visually impaired students.

#### **5. Demonstrative Illustrative Strategy**

Demonstrative illustrative strategy is also known as the demonstration strategy in literature. It is a strategy which teachers adopt in trying to concretise abstract concepts. According to **Farooq (2013)**, demonstration strategy is the usual classroom strategy which is aimed at achieving cognitive and psychomotor objectives. It is an instructional strategy in which the teacher shows an action with some clarification for students to watch (**Akinbobola 2015**). It is based on the principles of learning by doing, and knowledge acquisition and skill development through imitation. Hence, it makes use of visuals such as chalk board, flash cards, flip charts, posters, power point, etc. In applying this strategy, the teacher first introduces the lesson, shows further explanation through visuals or gestures, allows the students to practise what she/he has demonstrated and finally integrates all the activities by giving correction to the students and allowing them to revise and rehearse what has been taught.

This strategy is very good to sighted students as it allows hands-on activities. Students are carried along, but in an inclusive classroom where there are visually impaired students, the strategy becomes discriminatory. This is because demonstration requires sight and imitation of the teacher's action and this may not be helpful to the learning needs of visually impaired students. However, adding description to what the teacher illustrates to accommodate the needs of the visually impaired learners who can only hear what the teacher says, not the demonstrations, may go a long way to improve their achievement. According to **Access STEM (2014)**, the inability of the visually impaired students to use visual aids or demonstrations restricts them to using their sense of touch and hearing for learning. Access STEM further suggests that there is need to have classrooms that are inclusive by providing materials that appeal to the sense of hearing and sense of touch as well as describing orally, materials that are visual. In view of the above, this study is aimed at determining the effect of descriptive illustrative strategy on the achievement of the visually impaired students in Oral English.

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## 6. Descriptive Illustrative Strategy

The descriptive illustrative strategy is a type of instructional strategy which is aimed at painting a vivid picture of a thing or concept with words such that information or knowledge passed by the teacher is stored as images or pictures in the long term memory. It is the combination of auditory and tactile imagery to activate visual mental imagery. This is in line with the proposition of **Paivio (1971)** that information presented with verbal and non-verbal codes are more easily remembered than the ones presented with either of the codes. The descriptive illustrative strategy draws its theoretical backing from the descriptive theory of mental imagery (**Pylyshyn 1981**). This theory explains the role of images in information processing. This theory postulates that mental images are formed through the use of tacit knowledge, which is the perceptual knowledge one already has about the situation to be imagined. This perceptual knowledge can be got through vivid description of the object. In the view of this, **Pylyshyn (2002)** avers that mental images are formed through symbolic descriptions and that these images form in the long term memory. Mental imagery can be activated through the senses of sight, hearing, or touch thereby producing visual, auditory, and tactile imagery, respectively (**Kosslyn, Behrman, and Jeannerod 1995**). It is also supported by the Dual Coding Theory which explains the importance of presenting information in two codes (verbal and non verbal), postulating that human cognition is made up of logogens and imagens (**Paivio 1971; 2006**).

This strategy is designed mostly to meet the learning needs of visually impaired students, especially in oral English study where the teaching of phonetic symbols in inclusive classrooms favours students who do not have any visual impairment. This is because oral English, especially the vowels and consonants, are represented with phonetic symbols and is taught using charts and diagrams that illustrate the sounds and the organs of speech. So, in the absence of vivid descriptions and tactile images of these sounds, students with visual impairment do not benefit much from the lessons. **Seng (2004)** recommends the combination of verbal description and tactile materials to make up for the visual materials that only learners with sight can access. The descriptive illustrative strategy has the potentials of increasing visually impaired students' visualization and imaginative abilities. Studies have shown that greater percentage of the students with visual impairment lost their sight later in life. According to the American Foundation for the Blind (AFB) (**2017b**), it is only one percent of persons with visual impairment that are born without sight; the rest of them lost their sight later in life as a result of macular degeneration, glaucoma, and diabetes. Also, some percentage still have residual vision (**Khochen 2014**). So, the descriptive illustrative strategy complements whatever little residual vision they have in their study of oral English.

## 7. Method

The study employed quasi-experimental research design. Intact classes were used for the study. The variable is strategy at two levels: Descriptive Illustrative strategy and Demonstrative Illustrative strategy. Thus, the design is a quasi-experimental pre-test-post-test non-equivalent control group research design. This study was conducted in Enugu State, Nigeria in 2019. The population of the study was 18 visually impaired students in the four inclusive senior secondary schools in Enugu State Nigeria. The sample size of this study was 15 visually impaired students in senior secondary school two from two single-sex secondary schools in Enugu State, Nigeria. Purposive sampling technique was used in this study to select two schools which had the largest number of visually

impaired students in Enugu State. The schools were: College of Immaculate Conception (CIC), Enugu, which is all boys school. It was used as the experimental group. The other school was Girls' Secondary School (GSS), Ngwo which is all girls' school, and was used as the control group. The sample consisted of eight students in the experimental group and seven students in the control group.

The instrument used for data collection was Oral English Achievement Test (OEAT). The OEAT was adapted from the West African Senior School Certificate Examination for school candidates (2018) English Language 3 (Test of Orals). The OEAT contains 40 items. The reliability of the instrument was determined using Kuder-Richardson's Formula (K-R 20) which yielded an index of 0.88. In carrying out this experiment, the researchers went to the selected schools to seek the permission of the schools. First, the researchers met with the principals of the two selected schools, and explained to them the need for the study and why their schools were selected for the study. With the permission of the principal, the researcher met with the English language teachers of the selected SSS2 class and scheduled the time for training, which was at the convenience of the teachers.

The teachers were trained separately in their schools. The training sessions lasted for one week during which the researchers trained the teachers on how to apply the descriptive illustrative strategy for the experimental group, and the demonstrative illustrative strategy for the control group. In College of Immaculate Conception (CIC), Enugu where the Oral English teacher was different from the general English teacher, the oral English teacher received the training. These teachers, after training, served as research assistants while the researchers supervised them to control for invalidity.

In the course of the training, the research assistants were given the lesson plans. For the experimental group, the tactile and the visual material were made available to the teachers, while the visual material only was made available to the teacher who taught the control group. The visual material for the experimental group contains the speech sounds that were taught, and the dots that represent them in Braille. For example, the sound /d/ is represented with dots 145. This was to enable the teacher who is not trained in Braille to describe the symbols that represent each sound to visually impaired students, and for the sighted students to know what to tell their class mates whenever they are to read examination questions for them. However, for the control group, the visual material did not have Braille dots accompanying each sound. It only contained the speech sounds in their original form.

On the other hand, the tactile material contains the speech sounds in their embossed forms so that the visually impaired students, through their sense of touch, would feel the sounds, which would help them have mental representation of the sound symbols. The step by step of how the lesson would be delivered was made known to the teachers. On the last day of the training, the research assistants were given the OEAT which they administered to the students as pre-test. Subsequently, the treatment commenced, and it lasted for four weeks for the two groups. The topics taught, and the specific objectives were the same for both the experimental and control groups. The difference was only in the strategy.

The topics that were taught for the four weeks were:

First week: Consonant sounds, correct articulation, and examples of words where they occur.

Second week: Selected consonant sounds like /j/, /θ/, /ð/, /w/, /z/, their spelling symbols, and examples of words and sentences where they occur.

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Third week: Vowel sounds, correct articulation, and examples of words where they can be realized.

Fourth week: Selected vowels like /ʌ/, /ɜ:/, /ə/, /ɑ/, /eɪ/, /əʊ/, /eə/, /ʊə/, their correct articulation, spelling symbols and examples of words where they can be realized.

In each of these topics above, a lesson plan was written for both the experimental and the control groups. The indigenous communicative lesson plans were written using the communicative language teaching approach for the two groups. The only difference was in the strategy used. The steps in the lesson plan include: identification of previous knowledge, presentation, exploration, discussion, application, evaluation and assignment.

For the experimental group, the first step, identification of the previous knowledge, is where the teacher writes a sentence on the whiteboard and asks the students to identify the vowels and consonant sounds in the words that make up the sentence, and for the purpose of the visually impaired students, the teacher would read out the sentence for them to capture it in Braille. At the presentation stage, the teacher introduced the lesson and displayed the visual material for the sighted and presents the tactile material to the visually impaired in the class. At the exploration stage, the students were given a passage in print and in Braille for the sighted and the visually impaired respectively. They were expected to identify the words that contain each of the sound segments and the different spelling symbols where the sounds could be realized. This guided their discussion at the discussion stage. At the discussion stage, the students were grouped and were allowed to interact and share ideas based on their discoveries at the exploration stage. The teacher at this stage guided them by vividly describing and explaining what was in the material, and answered questions that arose as well as correct wrong answers. At the application stage, the teacher regrouped the learners with one visually impaired student in each of the groups. They were made to play a game using the topic of the lesson. Evaluation and assignment were given at the end.

However for the control group, the test of the previous knowledge was done without giving the visually impaired students the opportunity to transcribe the sentence in Braille, but the sentence was the same as the one given to the experimental group. The presentation stage was the same except that there was no tactile material, and the visual materials only contained the sounds in their original form without the Braille dots that represent each of the sound segments. Again at the exploration stage, the teacher gave the students the same passage to explore, but while the sighted had the privilege of making reference to the material being demonstrated, the visually impaired depended on their classmates to assess the material. At the discussion stage, the class was divided into groups without considering the visually impaired students, and whatever discovery that was made, was written on the board for the sighted to see, while the visually impaired students only listened without active participation in the lesson. At the application stage, the teacher wrote down some sounds on the board and asked them to make sentences that contained the sounds given. Evaluation and assignment were given at the end.

Finally, the post-test was administered to the students by the teachers. The post-test was the same as the pre-test except that the researcher shuffled the items. Both the pre-test and the post-test were administered to all the students, both the sighted and the visually impaired. However, only the scripts of the visually impaired students were used for the analysis. This helped to prevent the Hawthorn effect on the students, thereby ensuring the validity of the research.

The methods used in data analysis were mean, standard deviation and analysis of covariance (ANCOVA). While mean and standard deviation were used to answer the research question, ANCOVA was used to test the hypothesis at 0.05 level of significance. ANCOVA was considered the most appropriate statistics to be used for this study because it helped to control the effect of initial group differences by increasing the precision due to the extraneous variables thereby reducing error variance (Hinkle, Wiersma and Jurs 1988). Effect size was also used to determine how substantial the effect of the descriptive illustrative strategy was on visually impaired students' achievement and self-efficacy in Oral English. According to Fraenkel and Wallen (2003), effect size of 0.50 and above shows a significant effect of the independent variable.

## 8. Results

**TABLE 1**

*Pre/Post-test Mean Achievement Scores of the Experimental and Control Groups in Oral English*

GROUPS	PRE-TEST			POST-TEST		Gain Score
	N	$\bar{x}$	SD	$\bar{x}$	SD	
Experimental (Descriptive Illustrative Strategy)	8	12.88	2.03	20.88	3.87	8.00
Control (Demonstrative Illustrative Strategy)	7	13.57	1.81	14.86	1.06	1.29

Result on Table 1 shows the pre-test and post-test mean achievement scores of visually impaired students taught oral English using descriptive illustrative strategy and those taught using demonstrative illustrative strategy. The students who were taught using the descriptive illustrative strategy had mean achievement score ( $\bar{x} = 12.88$ ,  $SD = 2.03$ ) at the pre-test and mean achievement score ( $\bar{x} = 20.88$ ,  $SD = 3.87$ ) at the post-test, while those who were exposed to demonstrative illustrative strategy had mean achievement score ( $\bar{x} = 13.57$ ,  $SD = 1.81$ ) at the pre-test and mean achievement score ( $\bar{x} = 14.86$ ,  $SD = 1.06$ ) at the post-test. The standard deviation of 3.87 and 1.06 for the experimental and control groups respectively indicate that the scores of students in the experimental group were more widely spread than the scores of students in the control group. Gain score of 8.00 and 1.29 for the experimental and control groups respectively imply that the descriptive illustrative strategy had positive effect on the mean achievement score of visually impaired students in oral English more than the demonstrative illustrative strategy.

**TABLE 2** Analysis of Covariance (ANCOVA) of the Effect of Descriptive Illustrative Strategy on Students' Achievement in Oral English

SOURCE	TYPE III SUM OF SQUARES	DF	MEAN SQUARE	F	SIG.	PARTIAL ETA SQUARED	DEC.
Corrected Model	180.240 <sup>a</sup>	7	25.749	2.703	0.107	.730	
Intercept	20.497	1	20.497	2.151	0.186	.235	
Pre-testAchiev	2.557	1	2.557	.268	0.620	.037	
Group	79.013	1	79.013	8.293	0.024	.542	S

**Note:** S = Significant



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The result on Table 2 shows the effect of the descriptive illustrative strategy on visually impaired students' achievement in Oral English. The table shows that the effect of the descriptive illustrative strategy on students' academic achievement in Oral English is significant ( $F(1, 15) = 8.293, p < .05, \eta^2_p = .542$ ). Since the associated probability value of 0.02 is less than 0.05 set as level of significance, the null hypothesis which states that there is no significant difference in the mean achievement scores of visually impaired students taught oral English using the descriptive illustrative strategy and those taught with the demonstrative illustrative strategy is rejected. Thus, there is a significant difference in the mean achievement scores of visually impaired students taught Oral English using the descriptive illustrative strategy and those taught with the demonstrative illustrative strategy. This shows that descriptive illustrative strategy is more effective in enhancing visually impaired students' achievement in Oral English than the demonstrative illustrative strategy. The result further showed the effect size ( $\eta^2_p = .542$ ), which indicates that 54.2 percent variance in achievement in Oral English can be explained by the descriptive illustrative strategy.

## 9. Discussion

The result of this study shows that the descriptive illustrative strategy has positive effect on visually impaired students' achievement in Oral English. The result shows that students in the experimental group taught Oral English using the descriptive illustrative strategy have higher gain score than those taught using the demonstrative illustrative strategy. This may not be unconnected to the fact that the descriptive illustrative strategy gives visually impaired students the opportunity to use their mental imagery more effectively. Through description, they conceptualize the nature and shape of the symbols, and through tactile material they feel the symbols.

The result of this study is in line with the postulations of the Dual Coding Theory of **Paivio (1971)** that information in long-term memory is stored as verbal propositions and as mental images. This is obtainable when information is encoded through the auditory (verbal) and visual/tactile(non verbal) cues. Thus, **Paivio (2006)** posits that human cognition is made up of logogens and imagens which correspond to the visual, auditory, and tactile codes. The result of this study also collaborates the finding of Goldenberg, Mullbacher and Nowak, reviewed in **Kosslyn et al. (1995)** that visually impaired persons form visual mental imagery through acoustic and tactile perceptions. The visually impaired students, in this study, were given the opportunity to perceive the English phonetic symbols through these two modes (acoustic and tactile).

The outcome of this study agrees with the study of **Chukwu (2012)** and **Egbe (2012)**, which revealed that imagery based techniques/strategies are effective ways of teaching English Language. Chukwu's study determined the effect of imagery techniques, picture and visualisation on students' achievement in essay writing. The result of Chukwu's study showed that students in the two experimental groups performed better than those in the control group, which implies that students achieve more when taught with a strategy, like the descriptive illustrative strategy, that helps them to form a mental image of what is being taught. In view of the above, **Kosslyn et al. (1995)** identified the three roles that mental imagery plays in learning and memory to include: retention, recall and acquisition. Also collaborating this finding, is Egbe's study which showed that mnemonics which is an imagery- based strategy significantly improved students' achievement in English stress patterns.

Hence, descriptive illustrative strategy, which is also an imagery- based strategy, has significant effect on the mean achievement scores of visually impaired students in Oral English.

Furthermore, the significant effect of the descriptive illustrative strategy on visually impaired students' achievement in Oral English as revealed by this study supports the study of **Frederick and Bollen (2017)** that blind people have visual map where images are formed in the brain, like their sighted counterparts. So, activating this visual map through oral description and tactile representation of concepts can significantly improve the achievement of visually impaired students in English language especially in Oral English. Hence, this study has provided empirical evidence to Kosslyn's quasi-pictorial theory and Pylysyn's Descriptive theory, which explain the role of imagery in learning. This further agrees with the study of **Maingi-lore (2016)** that adapted classrooms, including instructional strategy influence students' performance. Thus, class adaptation means that teachers should modify the learning environment, strategies, materials and contents to suit the learning needs of all the learners in the class.

The findings of this study have several implications for the teaching of oral English to visually impaired students in inclusive classrooms. First, this study has revealed that visually impaired students can actually do well in any subject provided that teachers adopt strategies that accommodate their needs. This further implies that students' needs are paramount in choosing the instructional strategy to be used in the class.

Secondly, the result of the study implies that teachers can actually close the gap in learning outcomes created by visual impairment by painting a vivid picture of concepts being illustrated in words, as well as providing a tactile form of any visual material being used in teaching. This further implies that there is need for teachers to adapt the curriculum and learning environment to accommodate the learning needs of the visually impaired students in order to ensure actual inclusion. Hence, there is the need to train teachers, both the serving and pre-serving teachers, through workshops, conferences and seminars, on how to use this strategy such that they can carry along in their lessons, the visually impaired students.

Third, the findings of this study imply that there is need for curriculum planners to include in the curriculum, the strategies and materials that accommodate the learning needs of the visually impaired students in not just the learning of oral English, but in learning other aspects of the language and other subjects as well. Again, there is need for the curriculum to be reviewed to include the descriptive illustrative strategy in order to boost students' ability and achievement in oral English in particular, and in English language in general. This research has a limitation which points to other areas where future research may be needed. The content scope is limited to the segmental features leaving out the supra-segmental features. Therefore, the inferences drawn from this study may affect the generalization of the findings to all aspects of Oral English. Therefore, further research to test the efficacy of the descriptive illustrative strategy on visually impaired students' achievement in all aspects of oral English study will be needed. This study contributes to existing literature on strategies for improving the teaching and learning of oral English especially to the visually impaired students. Prior research has highlighted the importance of mental imagery in learning, yet little research has explored the effect of the descriptive illustrative strategy on visually impaired students' achievement in oral English in inclusive classrooms.

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### References

1. Access STEM. 2014. "The Alliance for Students with Disabilities in Science, Technology, Engineering, and Mathematics." DO-IT, University of Washington.
2. Akdeniz, Celal. 2016. *Instructional Process and Concepts in Theory and Practice*. Germany: Springer Science + Business.
3. Akinbobola, Akinyemi. 2015. "Effects of Learning Styles and Instructional Strategies on Students' Achievement in Nigerian Senior Secondary School Physics," <https://www.iiste.org/journals/index.php/APTA/article/view/20455>.
4. American Foundation for the Blind. 2017a. *Educating Students with Visual Impairments for Inclusion in Society*. New York: Sun Seed.
5. American Foundation for the Blind. 2017b. "Key Definitions of Statistical Terms," <http://www.afb.org/info/blindness-statistics/key-definitions-of-statistical-terms/25>.
6. Belay, Tamru E. 2005. "African Perspective on Visual Impairments Ict's and Policies: A Personal Experience, a Variety of Perspectives and Technological Solution," <http://www3.sympatio.ca/tamru>.
7. Camey, Susan, Connie Engbretson, and Karen Scammell. 2003. "Teaching Students with Visual Impairments", <http://www.sasked.gov.sk.ca/k/pecs/se/publications.html>.
8. Chukwu, Chinwe. 2012. "Effects of Imagery and Gender on Secondary School Students' Achievement and Interest in Essay Writing in Anambra State, Nigeria." M.ED diss., University of Nigeria, Nsukka.
9. Egbe, Cajetan Ikechukwu. 2012. "Effect of Mnemonics on Nigerian Senior Secondary School Students' Achievement in English Stress Patterns." *Review of Education* 23(1): 61-76.
10. Eguridu, M. Charles. 2009. "The Assessment of Oral English in Anglophone West Africa: Emerging Issues." Paper Presented at the 35th Annual International Conference of the International Association of Educational Assessment, Sofitel Brisbane Grand Centra, Australia.
11. Englebretson, R. (Ed). 2009. "IPA Braille: An Updated Tactile Representation of the International Phonetic Alphabet." *Journal of the International Phonetic Association* 29(1): 67-86.
12. Farooq, Umar. 2013. "Demonstration Method of Teaching: Meaning, Advantages and Disadvantages," <http://www.studylecturenates.com/curriculum-instructions/demonstration-method-of-teaching-meaning-advantages-disadvantages>.
13. Fasanmi, Olufunso T. 2011. "Challenges of Oral English as a Second Language (ESL) Learning in Nigeria," <http://www.academicleadership.org/article/challenges-of-oral-english-in-english-as-a-second-language-esl-learning-in-nigeria>.
14. Fraenkel, Jack, and Norman Wallen. 2003. *How to Design and Evaluate Research in Education*. New York: Mcgraw Hill.
15. Frederickx, Ilse, and KatrienBollen. 2017. "Blind People Have Brain Map for 'Visual' Observations Too," <https://nieuws.kuleuven.be/en/content/2017/blind-people-have-brain-map-for-visual-observations-too>.
16. Hinkle, Dennis, William Wiersma, and Stephen Jurs. 1988. *Applied Statistic for the Behavioural Science*. Boston: Houghton Mifflin Company.
17. Idoli, Nwachukwu and Pius Ummanah. 2010. "The Comparative Disparity in Oral English amongst Students of Urban and Rural Areas in Rivers State Secondary Schools." *Global Journal of Educational Research* 10, [www.globaljourseries.com;Info@globaljournalseries.com](http://www.globaljourseries.com;Info@globaljournalseries.com)
18. Khochen, Maha. 2014. "The Needs of Visually Impaired Students." British Council, UK, [www.teachingEnglish.org.uk](http://www.teachingEnglish.org.uk).
19. Kosslyn, Stephen, Marlene Behrmann, and Marc Jeannerod. 1995. "The Cognitive Neuroscience of Mental imagery." *Neuropsychologia*33(11): 1335-344.
20. Maingi-lore, Mary. 2016. "Factors Influencing Academic Performance of Students with Special Needs in Institutions of Higher Learning: The Case of Middle Level Colleges in Machakos County, Kenya." *Distance Education of the University of Nairobi*.
21. Nigerian Educational Research and Development Council (NERDC). 2007. "9 Year Basic Education Curriculum: English Studies for JSS 1-3." Abuja, Nigeria: Federal Ministry of Education.

22. Okereke, Ugochinyere Angelic. 2019. "Effects of Descriptive Illustrative Strategy on Visually Impaired Students' Achievement and Self-Efficacy in Oral English in Secondary Schools in Enugu State, Nigeria." M.ED diss., University of Nigeria, Nsukka.
23. Paivio, Allan. 1971. *Imagery and Verbal Processes*. New York: Holt, Rinehart, and Winston.
24. Paivio, Allan. 2006. "Dual Coding Theory and Education." Draft Chapter for the Conference on Pathways to Literacy Achievement for High Poverty Children, the University of Michigan School of Education.
25. Pylyshyn, Zenon W. 1981. "The Imagery Debate: Analogue Media-Versus Tacit Knowledge." *Psychological Review* 88:16-45.
26. Pylyshyn, Zenon W. 2002. "Mental Imagery: In Search of a Theory." *Behavioural and Brain Sciences* 25(2): 157-238.
27. Seng, Chok. 2004. *Teaching English to Blind Students*. London: British Council, [www.teachingEnglish.org.uk](http://www.teachingEnglish.org.uk).
28. United Nations Education and Cultural Organization (UNESCO). 2018. "Inclusive Education," <https://en.unesco.org/themes/inclusion-in-education>.
29. United Nations Educational and Cultural Organization (UNESCO). 1994. *The Salamanca Statement and Framework for Action on Special Needs Education*. Paris: UNESCO.
30. World Health Organization. 2018a. "Blindness and Vision Impairment Prevention: World Report on Vision," <http://www.who.int/news-room/fact-sheets/detail/blindness-and-visual-impairment>.
31. World Health Organization 2018b. "Blindness and Vision Impairment," <http://www.who.int/news-room/fact-sheets/detail/blindness-and-visual-impairment>