Effects Of Pictures On Gender In Teaching Reading Fluency To Primary Three Pupils In Nigeria

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ABSTRACT: This study explored the effect of Pictures on gender in teaching reading fluency skills to primary three pupils in Sokoto metropolis, in Sokoto state (Nigeria). The purpose is to investigate whether or not Pictures in teaching reading fluency skills, influence the achievement level of the participants between genders in the study area. The study sampled 178 pupils randomly from eight primary schools. Mixed design research method was employed in the study, where aptitude of the experimental group was measured before and after the treatment. One research question was asked and one hypothesis generated which was statistically tested at 0.05 levels of significant. T-test was employed to test the hypothesis. Guided reading passages with Pictures were used to teach the experimental group. The study found that no significant difference exists between genders in the experimental group on this basis, it was concluded that Pictures are gender friendly in teaching reading fluency skills to primary three pupils, particularly in the study area. The study recommends that primary school teachers should be encouraged to use Pictures in their teaching, thus ICT should as a matter of urgency be embedded in teacher training curriculum, and most importantly, the teacher training institutions, should have a Reading Instruction Research Centre to cater for the needs of the reading instructors as well as the needs of the pupils in terms of materials development.

Key Words: Pictures, Reading fluency, and Gender

INTRODUCTION
Reading fluency is a bridge between decoding and reading comprehension skills. Fluency in reading refers to the ability to read a text accurately and quickly with appropriate pacing and intonation as if one is speaking. (Kruidenier 2002, Pang,et al 2003, Sherman 2004, Hornstein 2004, Hudson et al, 2005, Vaugh and Candace 2009, Rasinski, 2011). Formally, there are four pupils' subgroups in every learning environment. The subgroups are defined by race/ethnicity, income, learning ability or with disability, physically fit or physically challenged pupils. Invariably, all the aforementioned four subgroups consist of just two groups – boys and girls. Therefore, it is only when teachers understand how the learning style of boys differs from the learning style of girls could they leverage the knowledge to increase overall pupils' achievement scores across all the subgroups (Costello, 2008: 48). In their quest to find a lasting solution to gender gap in academic activities, educators in United State have embarked on brain research to scientifically inform them why are girls out-performing boys in academic related tasks, and it was discovered that males and females process information differently. For example, using functional magnetic resonance imaging (fMRI), it was found that, the images of brain activity in males and females engaged in listening shows that only the left hemisphere "lights up" in male, whereas both right and left light up in females. The same images emerged when males and females engage in reading (Shaywitz et al., 1995). The preceding calls for a gender-friendly instructional strategy by employing the emerging waves of information communication technologies at the fingertips of the present generation, to not only communicate, but to create, manipulate, design, and self-actualize, the modes of teaching, learning and education delivery to close the gap of academic scores between gender. Consequently, this study measures the effects of pictures on gender in teaching reading fluency skills to primary three pupils in Sokoto metropolis.

Statement of the Problem
In the global scene, research has made great strides in identifying critical skills that relate to success in reading instruction. These include phonemic awareness; phonics; fluency; vocabulary; and comprehension as five fundamental components of reading instructions (the National Reading Panel 2000). And as well, the Government and stake holders in education, in advance countries show great concern on gender gap – be it reading gender gap or gender gap in adequate yearly progress. Thus, under the No Child Left behind (NCLB) act (in America), there await severe penalties for public school that failed to meet the required bench mark. In Nigeria, the opposite is the case. Nobody cares. Consequently, in the study area, in addition to nonchalant attitude to reading gender gap, the only known reading instruction is reading compression across all levels of education. This assertion was supported by The Universal Basic Education Commission in Nigeria, which reports that "Not many teachers, in this country have heard of phonic approach to the teaching of reading (UBEC, 2011:12).

Objectives
1. To determine the effect of Pictures on gender in teaching reading fluency skills to primary three pupils in Sokoto metropolis.

Research Questions and Hypotheses

One research question was asked and one hypothesis formulated as a guide to this study as follows:

Q1   Do the academic performance of boys and girls differ when taught reading fluency skills using Pictures in primary three classes in Sokoto metropolis?

$H_0$1.   There is no significant difference in academic performance between boys and Girls taught reading fluency skills with Pictures to primary three of Sokoto metropolis.

Significance of the Study

The study hopes to be of great significance particularly to the pupils in the public schools in Sokoto metropolis and their parents as well as teachers' training institutions, teachers of reading instruction in both the public and private primary schools who would like to leverage the gap of gender differences in Nigerian public schools.

Literature Review

There is a huge body of literature supporting the use of pictures in the classroom. Stokes (2001) cited Kleinman and Dwyer (1999) who examined the effects of specific visual skills in facilitating learning. Their findings indicate that the use of colour graphics in instructional modules as opposed to black and white graphics promotes achievement. Others include Mayer (1996) in Stokes (2001). Visual learners as was reported by Felder and Eunice (1995), Anthony, (2009) learn better if they see and hear words in the target language. Scoter (2005), observes that, the power of using images with young children lies in their ability to engage them because images stimulate curiosity and provide rich opportunities for language and literacy. Other research studies that focussed their attention on the effects of images in reading experiences include (Silver-Pacuilla and Ruedel 2004), Edmonds (2004), Cavanaugh and Catherine, (2006), Ann (2009), Carlacio et al, (2009), and Folkesson and Lena, (2006), Brandtzag(2005). Folkesson and Lena, (2007) carried out an experimental study to explore whether or not there would be differences in reading ability between pupils from computer supported environment characterised by self-regulated learning and gender differences. The study reports lack of gender differences in reading ability. Gbodi (2004) reports the mean achievement score of males' pupils 29.2% and 17.6 for females' pupils in a study using video tape for reading instruction to primary 1 pupil in Niger state. Panjwani et al (2009) reports to have observed some differences in an experimental study on, performance based on gender using digital visual materials. Gender-friendly instructional strategies grounded in research can help to transform the disengaged reader into the engaged reader, the struggling reader into the proficient reader, and the reluctant reader into voracious reader, and recommend graphic books to engage, to motivate them and want read more (Costella, 2008: 48). Contrary to what is prevailing in Nigeria where girl-pupils are mostly the low achievers in reading and related academic tasks as was evidence in Gbodi, (2004) and the NEI report (2011), In United States, United Kingdom, and Canada girls out-perform their male counterpart at all levels of education (Booth, Susan, and Fiona (nd). In summary, the Pictures in the above studies are mostly moving or still pictures with the aid of other electronic gadget such as internet, PowerPoint or Video for instructional purposes. This notwithstanding informed that Pictures in whatever form used could yield significant result, and both sexes could benefit educationally. This clearly is an indication that the potentials effects of photographs have for long been explored in other part of the world, with the third world trailing behind busy copying with the phased-out technology such as the white board and marker, which still are not present in most of the Nigerian primary schools. Only Gbodi, (2004) reported using technology related media in language instruction from Nigeria, others being largely from economically advanced nations. On the aspect of Reading Fluency instruction in lower primary classes, the position of Okonkwo (2004), Shore and John (2009), Torgesen and Roxanne, (2005) was clearly elaborated by EGRA (2009) that, Oral Reading Fluency is a measure of overall reading competence. This view is a global consensus and widely used not only to disfluent elementary pupils Amer, (1997), Rasinski et al, (2008), Rasinski, (2011), Fuchs et al, (2001) but also to disfluent adult learners (Manzur, 2005). Finally, the National Reading Panel offered a summary of the research literature about beginning reading instruction. They concluded that beginning reading competence is fostered by instruction in phonemic awareness, phonics, vocabulary, and comprehension strategies. The Panel also favored Guided oral reading, teacher professional development related to beginning reading, and use of computer technology in the development of early reading skills (Pressley, 2001).

Population and Sample Size

All primary three pupils registered in the public primary schools of 2010/2011 academic year in Sokoto metropolis, constitute the target population for this study. According to the data gathered, the study area has a total number of 62 public primary schools, with a population of 17,821 class three pupils. Out of this number, 9278 are males, while the remaining 8543 are female pupils.Based on a published table for determining sample size by Curry, in Yount, (2006) a study with a target populationabove 10,000 has an ideal sample size of 1% of the total population on P - value of $\alpha = 0.05$. Based on this table, the study sampled 178 pupils out of the total population (17821) in the study area. Four local governments, out of the five local governments that constitute the study area were purposively selected. The local governments are: Dange/Shuni, Sokoto South, Sokoto North, and Wamakko local government areas. Two primary schools each was randomly sampled using Microsoft excel random numbers from these local governments, and 22 pupils were sampled from the eight primary schools in equal ratio according to gender. The selected schools were computed and randomised into two groups – experimental and control groups. The first four in the randomised list were selected and tagged as **E schools** (experimental schools) and the last four as **C schools** (control schools).

Method and Materials

The research adopted quantitative and qualitative mixed design approach. In this study, attitude and academic tests were administered to the pupils of experimental group

before and after the treatment. The instrument for data collection is researcher modification of Dynamic Indicators of Basic Early Literacy Skills (DIBELS) Oral reading fluency (Goods, Haminski, and Smith, 2002). The instrument is a standardized, individually administered test of accuracy and fluency with connected texts. Pupils' reading fluency is measured by having them to read a passage aloud for 60 seconds. The number of words read correctly per minute from the passage is considered as the oral reading fluency rate of the pupil. The treatment was composed of five guided passages of different length and difficulty levels. The treatment lasted for seven weeks, with the first week being dedicated to pre-test, and the subsequent 5 weeks served as treatment and the final week as post-test. The services of the teachers in the schools (experimental and control schools) were sort for the exercise. The teachers were intensively orientated on how to handle the instruments for data collection in both experimental and control classes. The experimental group had 30 minutes reading fluency activities with the five guided reading passages with digital pictures involving repeated reading aloud activities with the pupils and the trainers, four times a week for five weeks.

RESULT

Q1. Research Question: Do the academic performance of boys and girls in the experimental group differ when taught reading fluency skills using Pictures in primary three classes in Sokoto metropolis?

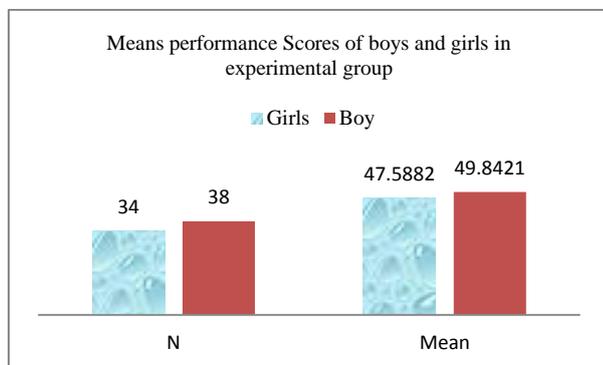Data collected to answer this question were analysed and presented Figure 1

Figure 1: *Mean performance scores of boy and girls in experimental group.*

It could be deduced from the figure that, girl's participants (34) had 47.5882 mean performance score, while the boy participants (38) had 49.8421 mean performance score. The figure revealed a difference in academic performance between the genders in the experimental group. To state at what level of significance, independent t-test at p = 0.05 was employed to test the null hypothesis which says that there is no significant difference in academic performance between boy and girls taught reading fluency skills with Pictures in primary three of Sokoto metropolis. The result of the t-test is presented in Table 3.

Table 1: *T-test on academic performance of boys and girls in experimental group*

Sex	N	Mean	SD	SE	DF	tcal.	P	Remark
Girls	34	47.5882	7.1122	1.2197				
Boy	38	49.8421	4.1810	.6782	70	1.660	.101	Not Significant

t (7.1122, 4.1810) = 1.660, p 0.101 (P > 0.05)

According to Table 1, the t-value was calculated = 1.660, with p 0.101. This revealed that, the p value of p = 0.101 was greater than P>0.05 Hence, the null hypothesis was accepted. This means, there was no significant difference in academic performance between boys and girls in the experimental group.

Discussion and Conclusion

Finding based on research question showed that, there was no significant difference between genders in the experimental group. This finding confirmed the report of Folkesson and Lena (2006) that lack of gender differences in reading ability based on experimental study in reading ability between pupils from computer supported environment characterised by self-regulated learning. Although, as a mark of differences with this study that used Pictures in teaching reading fluency skills, Brandtzag (2005) reported lack of gender differences in use of new media technologies among Norwegian children. The findings demonstrate that approximately all children regardless of gender have access to new media. These studies precisely are telling that, emerging ICT technologies are gender friendly. The peculiarity between this study and the previous studies reported was that, in the developed world, children have direct access to information communication technology gadgets both at home and in their classrooms, whereas, this study only used a finished product of the ICT gadgets – Pictures in teaching reading fluency skills to primary three pupils in Sokoto metropolis. Surprisingly, only Gbodi's (2004) study was found in Nigeria to report on the values of digital images in language instruction in Nigeria. Finally, the study concludes that, pictures are gender friendly in teaching reading fluency skills to primary three pupils in Sokoto Metropolis as no significant difference was noticed between genders on academic performance on those exposed to digital pictures in the study. Considering the place of reading fluency skills in today's technologically ridden society, the following recommendations were made on the basis of the finding of the study:

1. Use of digital pictures as visual-aids should be encouraged in teaching, to cater for pupils' individual differences so that no one is left out in the learning process.
2. Classroom teachers should start to respond to the ICT demands so as not to demotivate their pupils who are longer enthusiastic with flash card, chalk, duster and ugly drawings. They want something better and more sophisticated – guided reading passages well illustrated with coloured pictures.

3. Photography and information communication technology should be embedded in teachers' training curriculum in a manner that reflects technology across the curriculum to prepare the teachers for inevitable paradigm shift from the old order to emerging technologies of communication in education.

4. The teaching force in primary schools needs to be trained and constantly supported on not only how to use a particular ICT gadget, but on how they could solve their educational problems based on the needs of the pupils.

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