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Gender Balance in Generative Instructional Strategy Classrooms

Ofodu Graceful Onovughe[1], Awokunle Ibironke Adediwura[1] and Owolewa O. Olusegun[2]
[1]Department of Arts and Language Education, Faculty of Education, Ekiti State University, Ado Ekiti.
[2]Department of Arts Education, Adekunle Ajasin University, Akungba-Akoko, Ondo State.

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ABSTRACT

This paper investigated gender balance and the Generative Instructional Strategy (GIS) on students' achievement in reading comprehension in senior secondary schools in Ekiti State. One hundred and twenty (120) randomly selected students in Ekiti State public secondary schools participated in the study. The quasi-experimental design was adopted in the study. For pre-test and post-test, the same comprehension passages were administered. Data was collected through the use of the research instrument titled Reading Comprehension Achievement Test (RCAT). Two hypotheses were formulated and tested at 0.05 level of significance. Collected data were analysed using t-test. The study revealed that there was no significant effect of gender on the achievement of students exposed to Generative Instructional Strategy in reading comprehension. It was therefore recommended that Generative Instructional Strategy be adopted by English language teachers in Ekiti State and used in the teaching and learning of reading comprehension in the classroom.

Introduction

Gender involves the psychological and socio-cultural dimensions of being male or female. However, many researches and studies have also been carried out stating the advantages of girls in reading and the superiority of boys in science.

In a study conducted by Macoby and Jacklin (1987), it was observed that males have better mathematics and visuospatial skills (such as skills needed by architects in designing angles and dimensions for buildings) than females while females have better verbal aptitudes than males. In the result of the investigation conducted by Jegede and Inyang (1990) on gender differences and achievement in integrated science in Junior Secondary Schools, it was revealed that males outperform the female students. Poole (2005) while studying gender differences in reading strategy use among ESL college students using 3 strategies and 248 ESL students, submitted that males and females do not significantly differ in their overall strategy use, however, males only get slightly higher overall scores on global and problem-solving strategies while females use more support strategies.

Owuamanam and Owuamanam (2004) opined that though boys and girls take the same subjects in schools, girls tend to settle for careers that concern home making while boys go for more daring careers like Engineering etc. They stated that this is so because girls usually go for courses that do not require much energy, calculation and which are less tasking to the brain. From the linguistic point of view, Akindele and Adegbite (2005) suggest that in many societies, the speech of men and women differ. Galsworthy, Plomin, Dionne and Dale (2000) are also of the opinion that women are stronger on verbal terms while Anderson (2004) stated that females have about a one-third of a standard deviation (5 IQ points) advantage over males. However, these assertions have not been universally accepted. Kramer (1997) cited by Babalola and Oyinloye (2011) observed that men's speech is forceful, blunt, authoritative as opposed to women's weak trivial ineffectual, hyper-polite and euphemistic manner of speech.

Lynn and Mikk, (2009) in their contribution to international sex differences in reading ability examined three PISA (Programme for International Student Assessment carried out in 2000, 2003 and 2006) and discovered that girls outperformed the boys in reading ability while girls were seen as good in science and mathematics as boys. They however concluded that this might be so because of some differences in the living conditions and activities of boys and girls. They investigated these activities wherein they discovered that boys were usually busy with computers and DVD players while girls were reading more at home and in school. They therefore found sex differences in the variance of reading achievement in all the three studies analyzed. However, Yousif (2012) in his work titled "Gender Differences in Reading Comprehension Performance in Relation to Content Familiarity and Gender Neutral Text" revealed that males outperformed females in reading comprehension.

Harper (2001) quoting Bleier (1984) stated that:

> 'comparable populations of males and females have the same range of test scores, same range of abilities and in some test situations, the mean or average test scores may not differ at all or may differ only a few percentage points'.

Thus, he stated that hormonal effects could not be relied upon to conclude that there is a superior stand by either of the genders in language acquisition or language learning. Phakiti (2003) in examining how about 384 college students comprising of 173 males and 211 females utilized cognitive and metacognitive strategies in a Thai university discovered that there was no significant difference between male and females in terms of the cognitive strategies they used during their final examinations, however, men used more

Tele:
E-mail address: ofoduonos@gmail.com

metacognitive strategies than their female counterparts. Good instruction is the most powerful means of developing Proficiency in reading comprehension because comprehension instruction promotes the ability to learn from text. Generative instructional strategy is a practical activity-oriented form of instruction wherein the interest of learners are aroused and sustained by the guided discovery method which is student centered activity whereby students are guided to discover answers to the instructional topic of the particular lesson by the teacher through problem solving approach. In generative interaction, learners construct relationships among instructional elements and also between the elements and their prior knowledge. According to Wittrock (1974), generative learning involve four key concepts – recall, where the learner accesses information stored in his long term memory (schemata), integration – the learner merges the new information with the previous knowledge, organization – learner link prior and new concepts in effective way and elaboration – learner analyzes ideas, expanding upon thoughts and visual representations of mental images. All or some of these concepts can be used in teaching comprehension ability.

The theory of Generative Learning states that the human brain does not just passively observe its environment or events but constructs its own perceptions about problems, experiences and scenarios. Wittrock (1992) thus emphasized a significant assumption: the learner is not a passive recipient of information but rather he is an active participant in the learning process.

Through Generative interaction, the learner constructs relationships among instructional elements and also between the elements and his prior knowledge. This is described by Hyeon, Kyu and Grabowski (2011) as 'organisational' that is constructing relationship among the parts and 'integrational' – constructing relationships among the prior knowledge. Activities such as the manipulation and organisation of instructional elements by the learner can initiate the encoding process and have been shown to increase achievement in several contexts. Learners are encouraged to construct pictures, drawings and mental images all of which have facilitated factual retention of definitions and enhanced reading comprehension.

Although there is much to be learnt about enhancement of reading comprehension in the classroom, researchers agree that the goal of comprehension is more likely attained when students are actively involved in seeking, organizing and reformulating information in their own words. The generative learning theory encourages learners to become fully immersed in learning, helping them to discover and develop new strategies on how to solve problems.

Perhaps the definition of Generative learning by the Business Dictionary will suffice for this study. It defines generative learning as; "a Style of learning that incorporates existing knowledge with new ideas based on experimentation and open-mindedness." This researcher believes that this style of learning encourages individual and team creativity which results in new ways of viewing old method

The purpose of this study was to investigate gender balance and Generative Instructional Strategy on the achievement of secondary school students in reading comprehension in Ekiti State.

Research Hypotheses

Ho1: There is no significant difference in the post-test mean scores of students exposed to Generative Instructional Strategy between the experimental and control groups.

Ho2:There is no significant effect of gender on students' achievement in reading comprehension in experimental and control groups.

Methodology

This study adopted the pre-test, post-test, quasi experimental design. The population comprised all Senior Secondary School One students in Ekiti State. The sample for the study was 180 Senior Secondary School One (SSSI) students. Multi-stage sampling technique was used in selecting the schools, students and the local government areas. The first stage entailed the random selection of 3 local government areas, from the three Senatorial Districts of the State, followed by the random selection of 6 public senior secondary schools from the selected local governments.

The instrument for collecting data for the study was the Reading Comprehension Achievement Test (RCAT) which was in two sections. Section A contained information on the bio-data of the respondents while Section B contained reading comprehension passage and comprehension questions on literal, inferential and evaluative comprehension. Test re-test method was used to ascertain the reliability of the instrument at an interval of two weeks using Pearson Product Moment Correlation and a reliability coefficient of 0.75 was obtained. A pre-test was administered on both the experimental group and the control group, afterwards, the experimental group was exposed to treatment for four weeks while the control group carried on with normal classroom activities. After the completion of four weeks, a post-test was administered on both the experimental and the control group. T-test and Analysis of Covariance (ANCOVA) was used to test the two null hypotheses generated at 0.05 significance level.

Results

The results showed that there was significant difference in the post-test mean scores of students exposed to Generative Instructional Strategy and control group. The results tested at 0.05 level of significance.

Table 1. t-test showing post-test mean scores of students in Generative Instructional and control groups.

Group	N	Mean	SD	Df	t_{cal}	t_{table}
Generative Instructional strategy	60	23.32	5.27	118	4.507*	1.980
Conventional method	60	19.43	4.09			

*$p<0.05$

The result in Table 1 shows that $t_{cal}(4.507)$ is greater than $t_{table}(1.980)$ at 0.05 level of significance. The null hypothesis is rejected. This implies that there is significant difference in the post-test mean scores of students exposed to Generative Instructional Strategy and control group.

However, in table 2, the hypothesis, was tested using Analysis of Covariance (ANCOVA) at 0.05 level of significance. The result indicated no significant difference in the reading comprehension performance of both male and female students. However, reading comprehension of students was greatly enhanced by the use of treatment because the theory of Generative Instructional Strategy was not specifically inclined to influence learning for a particular sex.

The below table reveals that there is no significant interaction effect of gender on students' achievement in reading comprehension between the Generative group and the control group ($F_{1,115}=1.061$, $p>0.05$). The null hypothesis is not rejected. This implies that there is no significant interaction effect of gender on students' achievement in reading comprehension between the generative group and the

control group. Similarly, the main effect of gender on students' achievement in reading comprehension is not statistically significant at 0.05 level ($F_{1,115}$=1.945,p>0.05). However, treatment had significant effect on students' achievement in reading comprehension ($F_{1,115}$=38.001, p>0.05) at 0.05 level of significance.

Table2. 2 X 2 ANCOVA showing students achievement in reading comprehension in the generative and control groups by gender.

Source	SS	Df	MS	F_{cal}	F_{table}
Corrected Model	1402.263	4	350.566	24.028	2.45
Covariate (Pretest)	927.438	1	927.428	63.566	3.92
Sex	28.382	1	28.382	1.945	3.92
Group	554.434	1	554.434	38.001	3.92
Sex * Group	15.478	1	15.478	1.061	3.92
Error	1677.862	115	14.590		
Corrected Total	3080.125	119			
Total	57907.000	120			

p>0.05

Discussion

The findings of this study revealed that there was no significant effect of gender on students achievement in reading comprehension between the experimental and control groups. This is in agreement with the findings of Ofodu (2009) in the submission of a study where she compares two cooperative instructional methods in reading performance of secondary school students, there is no significant difference in the reading performance of male and female students in English language. However, this is at variance with several researchers like Lynn and Mikk (2008) in their contribution to international sex differences in reading ability while examining three PISA (Programme for International Student Assessment) and discovered that girls outperformed the boys in reading ability while girls were equally as good as boys in mathematics. It was evident at the onset of the experiment that most girls and boys were able to read fluently but couldn't understand what was being read. However, results show clearly that there was significant difference in the post test mean scores of students in the experimental group irrespective of gender. Thus, if students of both sexes are introduced early to adequate instructional strategies like the generative strategy, they will perform excellently in reading comprehension.

Conclusion and Recommendation

From the findings of this study, it is evident that there was no significant effect of gender on students' achievement in reading comprehension. However, treatment had significant effect on students' achievement in reading comprehension. Students exposed to Generative Instructional Strategy performed better than those in the control group regardless of gender. The use of Generative Instructional Strategy was quite effective in enhancing the achievement of senior secondary school students in reading comprehension. Thus it became obvious that the Generative instructional strategy had positive effects on the students as opposed to the conventional method of teaching. It is therefore concluded that given the right atmosphere and with the right instructional strategy, both male and female learners would perform well in reading comprehension in secondary schools.

It is therefore recommended that the Generative Instructional Strategy be adopted and used by English language teachers in teaching reading comprehension in the classroom. It is also recommended that students be exposed early to the Generative instructional strategy since the strategy is capable of taking care of reading comprehension without recourse to the gender of learners.

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