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An Appraisal of Jigsaw and Fishbowl Instructional Strategies on Pupils' Performance in Reading Comprehension in Selected Basic Schools in Ghana

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Abstract

This study examined Jigsaw and Fishbowl Instructional Strategies on Pupils' Performance in Reading Comprehension in selected Basic Schools in Ghana. The study adopted pre-test and post-test control group quasi- experimental design using a $3 \times 2 \times 2$ factorial matrices with two experimental groups and one control group. The population of the study consisted of ninety (90) class six pupils selected from the: Don Bosco Primary, Anglican Primary and Winneba Presby Primary schools. Stratified, random and purposive sampling techniques were used for the study. The main data collection tool was Reading Comprehension Achievement Test (RCAT), which was applied to Jigsaw, Fishbowl (Experimental groups) and Control groups, for both pre-test and post-test. Data analysis was done using the inferential statistics such as independent T-test, and ANCOVA. The study revealed that: Fishbowl Strategy has improved upon the performance of pupils in reading comprehension than the Traditional approach; jigsaw group (M =16.207) had significantly higher post-test scores, controlling for the effect of their Pre-test, than pupils under fishbowl (M = 15.864). The recommended that, Jigsaw and Fishbowl should be used as learning packages for reading comprehension to help the pupils to develop positive attitude towards reading comprehension.
Keywords: Appraisal Jigsaw; Fishbowl; Instructional strategies; Reading comprehension basic schools; Ghana.

1. Introduction

This paper results from an appraisal of jigsaw and fishbowl instructional strategies on pupils' performance in reading comprehension in selected basic schools in Ghana. The paper is structured into four (4) main sections namely; the Introduction, Materials and Methods, Results and Discussions and the Conclusion. The first section introduces the structure of the paper, the context and aims and objectives of the paper. The materials and methods section presents a broad description of the methodology and procedures adopted in the conduct of the study. Results and Discussions from the study are presented in the section following the materials and methods and conclusion, also highlighting some recommendations of the discussions, follows as the last section.

Reading comprehension deals with conveying information and creating knowledge. Through reading comprehension, thoughts are actively constructed and regulated. That is, socialization and cognition processes are both grounded in reading comprehension. Again, reading comprehension forms a basis for all academic work in the schools, as well as served as a springboard for pupils to aspire higher in the academic ladder. If much emphasis is placed on the teaching of reading comprehension, pupils in inclusive schools would find most of their academic work with ease.

Some researchers in the area of reading comprehension have posited that, gender is the learner characteristic that have been shown to exert considerable influence on pupils' learning outcome. One difference among school children that cuts across the demarcation of social class and environmental privilege is the difference between the sexes. Abundant evidence in literature shows that sex is a strong predictor of human conduct and that many differences have been documented between the attitude, behaviour and achievement of boys and girls. Gender factor is very strong in learning and thus a determining factor of pupils' interest and achievement and consequently career choices. The ability to read opens a gateway to success in many other areas of school, as most school subjects rely to varying degrees on reading ability. Indeed, once children have mastered this fundamental skill, they will accomplish many

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tasks more easily, which may in turn lead to more enjoyment from school. It is often speculated that girls have a more positive attitude to reading than boys (Leonard and Smith, 2001).

In teaching reading comprehension, there are many instructional strategies at the disposal of teachers such as lecturing method, discussion method, and demonstration method. In this study, therefore, the emphasis is on Fishbowl and Jigsaw Instructional Strategies. Jigsaw instructional strategy compelled pupils to master pieces of an information that when put together covered a complete topic. Jigsaw strategy offered pupils an opportunity to become an expert on pieces of information and then shared them with other pupils in class. The Fishbowl strategy also compelled pupils to observe a role play of selected pupils in class and the rest of the pupils in class are given an observational task sheet to critique the role play based on the information on the task sheet. The Fishbowl and Jigsaw instructional strategies enable pupils to acquire enough vocabulary to excel in the aspect of the language, for example, listening and speaking, composition writing, grammar and reading comprehension. Traditional strategies of teaching reading comprehension such as discussion and lecturing strategies alone are inadequate to motivate pupils to take active part in reading comprehension exercises in the school. This is because most pupils at the basic level have inadequate vocabulary to represent and construct ideas from the reading text.

The use of lecturing method in teaching language though very good in teaching is not appropriate for pupils in basic school level where they have inadequate vocabulary. Hence, there is a need to employ instructional strategies that could instil in pupils enabling skills to acquire motivational empowerment to regulate their own learning in reading comprehension (Paris and Oka, 2004). Jigsaw instructional strategy plays indispensable roles in teaching and learning process in the school. Jigsaw learning allows students to be introduced to reading material and yet maintain a high level of personal responsibility. The purpose of Jigsaw is to develop teamwork and cooperative learning skills within all pupils. In addition, it helps develop a depth of knowledge not possible if the pupils are to try and learn all of the reading material on their own. Finally, because pupils' are required to present their findings to the 'home group' Jigsaw learning would often disclose pupils' own understanding of a concept as well as reveal any misunderstandings.

Teaching in inclusive learning environment in respect to reading comprehension, demands strategies or approaches to help all pupils meet high expectation in the English language in the pilot inclusive schools in Winneba. Teachers, who teach reading comprehension exercises in the inclusive classrooms, might need wide range of teaching strategies or approaches used to address their learning needs (Vaughn *et al.*, 1998). The concept of inclusion is having a significant effect on the way teachers teach pupils in general education classrooms. Teachers are requested to choose from a variety of strategies and accommodations to meet the needs of all pupils-those with disabilities and those without disabilities (Yehle and Wambold, 1998). General teaching strategies in the inclusive classrooms that enable all pupils to have access and participate in teaching and learning process (Watson, 2010). According to the author, teachers should make teaching instruction and direction simple whenever task is assigned to pupils. Again, teachers should have varieties of rewards that are well known to the pupils. The author finally posits that teachers should have fun with the pupils and provide humour when opportunity presents itself in class.

The Chief Examiners' Report on English language 2008, Basic Education Certificate Examination (BECE) has singled out poor spelling as a major cause of the poor performance by candidates in English language examination. It has, therefore, suggested that English Language teachers in basic schools should intensify "the good old practice of spelling drills" in all schools. The report further suggests that there should be dictation of single words and short passages during English Language lessons, which would improve pupils' spelling in schools." It also recommended that teachers should use the English Language as the medium of instruction in all schools to help candidates to improve on their command of the language. The report describes the level of spelling during the 2008 BECE English Language paper as "terrible" and cited examples of some of the mis-spelt words as 'grease' instead of "grace", 'continoue' instead of "continue" and 'comppt' instead of "computer". It said a lot of candidates could not show thorough understanding of the questions and thereby wrote 'shallow' compositions. The report further recommended that English teachers should try to inculcate the habit of reading in pupils', so that pupils' could speak and write good English in schools (Snow, 2002).

The above report indicated that much effort is expected from teachers to raise the performance of pupils in English language in all basic schools in Ghana. This could only be achieved through the selection of appropriate instructional strategies such as Jigsaw and Fishbowl instructional strategies which could expose pupils to have command on reading comprehension in particular and other aspects of English Language in general. The interactive effect of the two variables, Jigsaw and Fishbowl instructional strategies is not also common in literature. It is hereby contended that the need to improve pupils' performance in reading comprehension exercises and the fact that Jigsaw and Fishbowl instructional strategies could influence the learning outcomes of pupils' provided the theoretical basis to pose the problem of this study.

This study was to appraise Jigsaw and Fishbowl instructional strategies on pupils' performance in reading comprehension. Again, a simple survey conducted by the researchers indicated that pupils' in the pilot inclusive schools were passive participants in reading comprehension lessons as compared to other subjects. This has resulted in poor performance of pupils in reading comprehension in the schools. The concern is that if pupils are not given an enabling skill to acquire motivational empowerment to regulate their own learning in reading comprehension, the academic progress of pupil's in the pilot inclusive schools in Winneba would be affected. The study was guided by three hypotheses - $H_{o1:}$ There is no significant different between the performance of pupils expose to Fishbowl strategy and traditional strategy in reading comprehension. $H_{o2:}$ There is no significant gender difference in the performance of pupils' who are exposed to Jigsaw and Fishbowl Instructional strategies in reading comprehension. $H_{o3:}$ There will be a statistically significant difference between pupils' academic performance (post- test) and treatment packages when the effect of pupils' pre- test results is controlled.

2. Materials and Methods

The study adopted pre-test and post-test control group quasi- experimental design using a $3 \times 2 \times 2$ factorial matrices with two experimental groups and one control group. A quasi-experimental research, pre-test post-test design, with partially matched experimental and control groups, was adopted because of its resistance to common threats to internal validity (Gray, 2004; Mouton, 2001). In pre-test and post–test, control group quasi- experimental design, allows the researchers to assess whether the groups are equivalent on the dependent measure before the treatment is given to the experimental group. Again, in this pre–test and post–test, control group quasi-experimental design, the researchers were afforded the opportunity to assess any changes that may have occurred in either group after treatment by comparing the pre-test measures for each group with their post-test measures. The design enabled the researchers to examine the effectiveness of each treatment and offered the necessary recommendation to its usage, in the teaching of reading comprehension

The population of the study consisted of ninety (90) class six pupils selected from the following schools: Don Bosco Primary, Anglican Primary and Winneba Presby Primary. These schools were chosen because they possess important characteristics for the study. Basic six pupils both male and female were chosen because they are mature enough to respond to the treatment package for the study. To avoid gender bias, both males and females in the class were given an equal chance to be selected.

Stratified, random and purposive sampling techniques were used for the study. The selection of the pupils would be done through stratified sampling technique. The rational for using stratified sampling is that, it enables the researchers to identify a set of important characteristics of a population and then selects the desired samples in a non-random way. Again, it attempts to obtain representatives of the various elements of the total population in the proportion in which they occur there. It also assumes that the samples match the population with regard to the chosen set of characteristics. This was done by putting pupils into groups (boys and girls) then Yes or No was written on the pieces of paper for pupils to pick. The researchers ensured that the number of yes corresponded to the number of the respondents needed for the study. A random selection of fifteen boys and fifteen girls were selected for the study. The purposeful sampling was used to select the class teachers and the schools for the study.

The main data collection tool was Reading Comprehension Achievement Test (RCAT), which was applied to Jigsaw, Fishbowl (Experimental groups) and Control groups, for both pre-test and post-test. The Reading Comprehension questions which were used as achievement test for were taken from Pupils 'Approved Reading Book for basic six, by Ghana Education Service entitled 'New Gateway to English for primary schools. The researchers considered those questions from pupil's reading book necessary, because those questions were carefully selected to match the IQ (Intelligent Quotient) level of the pupils. The researchers took a clue from those questions and developed 20 comprehension questions to ascertain the level of performance of pupils' in reading comprehension for various groups chosen for the study. The researchers selected one passage from the pupils' approved book of which have not been treated by all the three groups, which was later administered to pupils' and their scores were recorded to form the baseline for both experimental and the control groups

Data analysis was done using the inferential statistics such as independent T-test, and ANCOVA. ANCOVA (Analysis of Co-Variance) tests was used to measure differences between control and experimental groups, as well as different correlations between the groups (Creswell, 2008). The independent T-test is a statistical tool that tests for differences between means of the groups, the T-test was used for hypotheses 1 and 2 (Vaughn *et al.*, 1998). The ANCOVA was used for hypothesis 3.

3. Results and Discussions

This section presents the results and discussions of the findings of the study. The hypotheses that were raised to guide the study have been discussed.

H$_{o1:}$ There is no significant different between the performance of pupils expose to Fishbowl strategy and traditional strategy in reading comprehension.

Table-1. T-test table showing the performance of pupils expose to Jigsaw and   Traditional approach in reading comprehension

Students School	N	Mean	Std. Deviation	T	Df	Sig.
Presby Sch. (Fishbowl)	30	16.73	2.016	11.560	58	.000
Don Bosco Sch. (Traditional)	30	10.62	2.918			

The result of the t –test scores in table 1, showed that the pupils exposed to the Jigsaw strategy differ significantly at p = 0.000; (p< 0.05) in the post test performance mean score of (16.73) from the Traditional approach of mean score of (10.62). This implies that the Fishbowl Strategy had a greater potency at effecting pupils' performance in reading comprehension than the Traditional Approach. The result of these findings is consistent with a similar study conducted by on promoting peer collaboration among learners for effective teaching and learning in the classroom. Learners' interactions were structured using Computer- Mediated Conference (online threaded discussion) and Fishbowl Instructional Strategy (Richard and Joseph, 2008). The authors indicated the results on the level of participation and performance by the learners. They declared that, learners in Fishbowl Instructional Strategy indicated a higher level of mean score participation and performance (4.11) than those using Computer Mediated Conference (2.29), (p < 0.05). In Fishbowl Instructional Strategy, learners have an in depth conversation that hits on all key points, and even gives pupils' a better opportunity to ask questions about things that they do not understand (Cho *et al.*, 2010; Jaya and Habibi, 2016). The authors concluded by saying that, this strategy permits learners to talk to each other in conversation and look to each other for answers instead of just rely solely on the

teacher. This can equally be explained by social constructivist theory that emphasized the importance of the learner being actively involved in the learning process, unlike previous educational viewpoints where the responsibility rested with the teacher to teach and where the learner played a passive, receptive role.

$H_{o2:}$ There is no significant gender difference in the performance of pupils' who are exposed to Jigsaw and Fishbowl Instructional strategies in reading comprehension.

Table-2. T-test table showing the performance of male and female after they have been exposed to Jigsaw and Fishbowl Instructional Strategy in reading comprehension

Group	Students Gender	N	Mean	Std. Deviation	Df	T	p-value
Jigsaw Post-test	Male	15	15.20	2.597	28	0.077	0.688
	Female	15	15.13	2.825			
Fishbowl Post-test	Male	15	16.53	2.416	28	0.302	0.194
	Female	15	16.33	1.918			

The result of the t –test scores in table 5, showed that there is no significant different between the performance of male and female after they have been exposed to Jigsaw and Fishbowl Instructional Strategy. Jigsaw strategy recorded insignificant difference for boys and girls of (t= 0.077; p = 0.688; p> 0.05), Fishbowl strategy also recorded highly insignificant different between boys and girls of (t= 0.302; p = 0.194; p > 0.05) in the post test performance mean scores in reading comprehension. This implies that the performance of both boys and girls in reading comprehension in Jigsaw and Fishbowl Instructional Strategies are almost the same. Hence, the null hypothesis 2 is not rejected. Thus, *there is no significant gender difference in the performance of pupils' who are exposed to Jigsaw and Fishbowl Instructional Strategies in reading comprehension.*

This result is not intriguing, but, rather conforms to the findings on a study "*An investigation of students' means casual thinking abilities in terms of academic achievement, reading comprehension and gender*" found no significant difference between male and female students' performance in reading comprehension scores in the study conducted (Berkant, 2007). Similarly, a study conducted on "Interest, learning and the psychological processes that mediate their relationship" published in *Journal of Educational Psychology* found that boys and girls did not differ significantly in terms of average in reading comprehension scores (Ainley *et al.*, 2002). The researchers indicated that at all grade levels, the scores of boys in reading comprehension were more variable than the scores of girls, however, the differences in variability were not large enough to be significant. However, in a study conducted on "*PIRLS 2006 international report: IEA's progress in international reading literacy study in primary schools in 40 countries*" found that in national literacy in reading comprehension tests in British schools, conducted at approximately age 7, age 11 and age 14, girls consistently outperformed boys, with higher scores in reading comprehension with a higher number of girls reaching the standard expected for their age group in reading comprehension than boys (Mullis *et al.*, 2007).

$H_{o3:}$ There will be a statistically significant difference between pupils' academic performance (post- test) and treatment packages when the effect of pupils' pre- test results is controlled.

To test this hypothesis, one-way analysis of covariance (ANCOVA) was conducted. The training groups were treated as independent variables(factors), pre-test scores as covariates, and post-test scores as dependent variable. The three main assumptions of ANCOVA were tested (i.e. normality, Levene's test of equality and homogeneity-of-slopes test). The third assumption was checked before conducting the ANCOVA. This test evaluated the interaction between the covariate (pre-test) and the factors (training/schools) in the prediction of the dependent variable (academic performance in reading comprehension – post-test). As shown in table 3 below, there were no significant interactions between the covariate and the factors that mean that the homogeneity-of-slopes assumption is validated.

Table-3. Results of the test of homogeneity of slopes

	df	f	Sig.
School * Pre-test score	2	1.419	0.246

As indicated, the F results of the interaction term (product term) school/training and pre-test are no significant at the present alpha level (0.05). Based on the homogeneity assumption not violated, the researcher, therefore, assessed the effect of the training (jigsaw and fishbowl) on the respondents' comprehension scores as shown in table 4 below. Levene's Test of Equality (first assumption of ANCOVA) was used to determine the equality of variance assumption. As table 4 indicates, the error variance of the dependent variable is equal across groups.

Table-4. Levene's Test of Equality of Error Variance

	F	df1	df2	Sig.
Academic Performance	2.358	3	132	0.103

Table-5. Descriptive statistics for post- test scores

Source	Observed Mean	Standard Dev.
Anglican Primary School (Jigsaw)	15.20	2.793
Presby Primary School (Fishbowl)	16.73	2.016
Don Bosco Primary School (Control group)	10.62	2.918
Total	14.19	3.672

3.1. Calculating the Measure of Association

Calculating the measure of association (omega squared) is given by the formula:

$$W^2 = \frac{SSB - (K - 1) MSw}{SST + MSw}$$

For our example, we substitute into the formula and get:

$$W^2 = \frac{923.536 - (4-1)\, 2.768}{1806.370 + 2.768}$$

$$W^2 = \frac{923.536 - 3(2.768)}{1809.138} = \frac{923.536 - 8.304}{1809.138}$$

$$= 0.505893967 = 0.51 = \mathbf{51\%}$$

A one-way analysis of covariance (ANCOVA) was conducted for this study. The independent variable was the training/schools (i.e. jigsaw, fishbowl, and control groups). The dependent variable was the pupils' post-test academic performance scores in reading comprehension and the covariate was the pupils' pre-test scores in reading comprehension. A preliminary analysis evaluating the homogeneity-of-regression (slopes) assumption indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable $F(3,247) = 2.358$ p= 0.103. The ANCOVA was significant, $F(1,135) = 192.9$, p= 0.000(See Table 6). However, 51 %($w^2 = 0.51$) of the total variance in post- test academic performance in reading comprehension scores was accounted for by the treatment groups controlling for the effect of the pupils' pre-test scores. The result of the analysis of covariate (ANCOVA) is presented in the table 6 below:

Table-6. Analysis of Covariance (ANCOVA) for Post –Test Scores

Source	SS	df	MS	F	P
Pre-test scores	533.963	1	533.963	192.902	0.000
Training/Schools	923.536	2	461.768	166.821	0.000
Error	362.615	131	2.768		
Total	28971.000	135			

The result shown above indicates that the population-adjusted means are equal. Therefore, the study hypothesis was supported. Based on the significant difference on the training/schools (i.e. alpha = 0.000) follow-up tests were conducted to evaluate pairwise differences among the adjusted means for the training groups. The Bonferroni procedure was used to control for Type I error across the three pairwise comparisons (alpha = 0.05/3 = 0.017). The results showed that pupils under jigsaw group (M =16.207) had significantly higher post-test scores, controlling for the effect of their Pre-test, than pupils under fishbowl (M = 15.864). The control group reported the lowest post-test scores (M= 10.484).

Table-7. Descriptive statistics for post – test scores

Source	Estimated Marginal Means	STD Error
Anglican Primary School (Jigsaw)	16.207	0.258
Presby Primary School (Fishbowl)	15.864	0.256
Don Bosco Primary School (Control group)	10.484	0.248
Total	42.555	0.762

The multiple comparisons show that not all of the treatment groups differ statistically in the pupils' post-test academic performance in reading comprehension. The statistical significant difference was found between Jigsaw treatment group (Anglican primary school) and the control group (Don Bosco Primary School). While the observed means indicates that Fishbowl group was the best, the adjusted means shows that Jigsaw group performed best, followed by fishbowl group and lastly, the pupils from control group (Don Bosco Primary). The results are presented in the table 8 below:

Table-8. Pairwise Comparisons of Post – Test Scores

Group	Mean Difference	Lower Bound	Upper Bound	Sig.
1-2	0.343	-.566	1.252	0.742
1-3	5.724*	4.852	6.595	0.000
2-3	5.381*	4.523	6.239	0.000

Based on estimated marginal means
a. Adjustment for multiple comparisons: Sidak
*. The mean difference is significant at the .05 level.

The profile plot below gives us a visual picture of what is going on with our study.
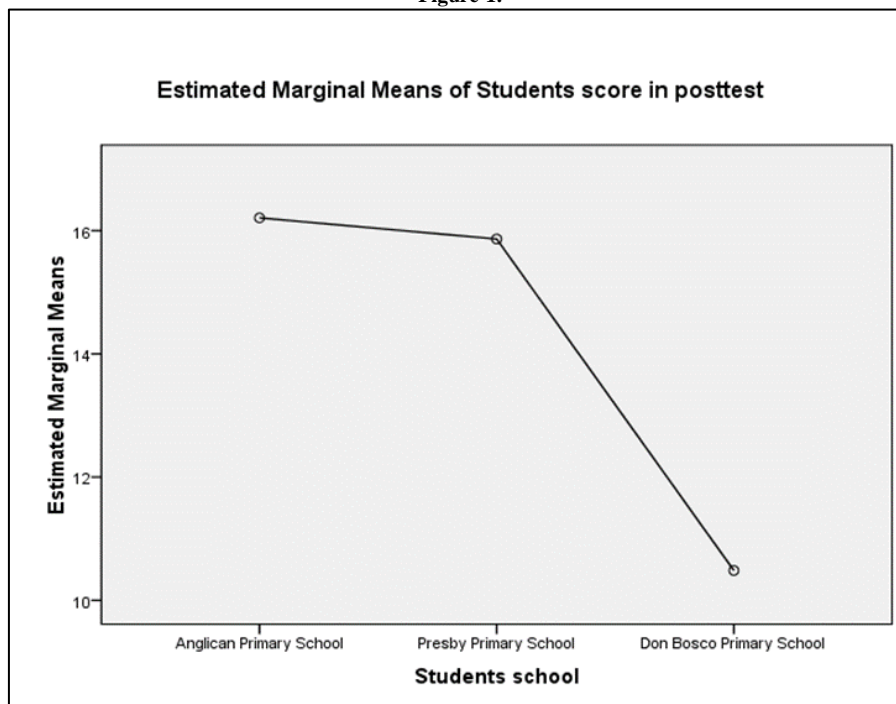
Figure-1.

Figure 1: Relationship between training/schools and pupils' post –test academic performance controlling for pre-test performance. The result shows that pupils' whose were under Jigsaw treatment (Anglican Primary School) had the highest level of academic performance in reading comprehension with the treatment relationship with a highest means shown between these groups than all the two of the other treatment groups. Pupils' under Fishbowl (Presby Primary School) had the second highest means and lastly the control group (Don Bosco Primary School).

The results showed that pupils under jigsaw group (M =16.207) had significantly higher post-test scores, controlling for the effect of their Pre-test, than pupils under fishbowl (M = 15.864). The control group reported the lowest post-test scores (M= 10.484) Table 8. The total variance accounted for by all the independent variables taken together is 51% (i.e. $w^2 = 0.51$). This implies that the treatment packages offered by both Jigsaw and Fishbowl have contributed to the performance of pupils in reading comprehension by 51%. Meanwhile, pupils' whose were under Jigsaw treatment (Anglican Primary School) had the highest level of academic performance in reading comprehension with the treatment relationship with a highest means shown between these groups than all the two of the other treatment groups. Pupils' under Fishbowl (Presby Primary School) had the second highest means and lastly the control group (Don Bosco Primary School). The outcome of this study, however, confirmed the findings of the research work on "*Academic performance, prejudice and the jigsaw classroom: New pieces to the puzzle*" found that Jigsaw produced significant improvements on measures of academic performance, liking of peers, and racial prejudice (Walker and Crogan, 1998). This posit that, Jigsaw Instructional Strategy promotes positive attitudes towards the subject of study thereby enhances pupils' performance in the subject. Jigsaw Instructional Strategy emphasizes shared goals learning environment, promote collaboration that can increase group cohesion and encourage interdependence for optimum academic performance among pupils' in the school (Weidman and Bishop, 2009). Studies on Jigsaw Instructional Strategy revealed that Jigsaw activities create a distributed intelligence by sharing information and effort to achieve high academic goals (Weidman and Bishop, 2009).

Another impressive result recorded by Fishbowl in this study corroborates the findings of study on promoting peer collaboration among learners in the classroom. Learners' interactions were structured using Computer-Mediated Conference (online threaded discussion) and Fishbowl Instructional Strategy (Richard and Joseph, 2008). The researchers indicated the results on the level of participation and performance by the learners, by indicated that, learners in Fishbowl Instructional Strategy recorded a higher level of mean score participation and performance (4.11) than those using Computer Mediated Conference (2.29), (p < 0.05). The above findings are consistent with a study on "*Thinking aloud: Struggling readers often require more than a model*" found out that pupils' often feel more comfortable working with their peers in Fishbowl Instructional Strategy, thereby enhancing their performance (Walker, 2005). The researchers indicated in the studies for example, that Fishbowl Instructional Strategy allowed a pupil struggling to make sense of an idea may understand better when it is explained by a peer (who may have only recently figured it out by himself/herself) rather than by an adult. Therefore, by working in groups, pupils learn from their shared discoveries and experiences together for optimum academic achievement (Kohn, 1999; Walker, 2005).

4. Conclusions

As the first hypothesis clearly stated that, there is no significant difference between the performance of pupils expose to Fishbowl strategy and traditional strategy in reading comprehension; the study revealed that pupils exposed to the Fishbowl strategy differ significantly at p = 0.000; (p< 0.05) in the post test performance mean scores

from the Traditional approach. This implies that the Fishbowl Strategy has improved upon the performance of pupils in reading comprehension than the Traditional approach.

In terms of the second hypothesis which states clearly that, there is no significant gender difference in the performance of pupils' who are exposed to Jigsaw and Fishbowl Instructional strategies in reading comprehension; the study revealed that there is no significant different between the performance of male and female after they have been exposed to Jigsaw and Fishbowl Instructional Strategy. Jigsaw strategy recorded insignificant difference for boys and girls of (t= 0.077; p = 0.688; p> 0.05), Fishbowl strategy also recorded highly insignificant difference between boys and girls of (t= 0.302; p = 0.194; p > 0.05) in the post test performance mean scores in reading comprehension. This implies that the performance of both boys and girls in reading comprehension in Jigsaw and Fishbowl Instructional Strategies are almost the same.

As clearly stated in the third hypothesis that, there will be a statistically significant difference between pupils' academic performance (post- test) and treatment packages when the effect of pupils' pre- test results is controlled; the study revealed that not all of the treatment groups differ statistically in the pupils' post-test academic performance in reading comprehension. The statistical significant difference was found between Jigsaw treatment group (Anglican primary school) and the control group (Don Bosco Primary School). While the observed means indicates that Fishbowl group was the best; the adjusted means shows that Jigsaw group performed best, followed by fishbowl group and lastly, the pupils from control group (Don Bosco Primary). This implies that jigsaw group (M =16.207) had significantly higher post-test scores, controlling for the effect of their Pre-test, than pupils under fishbowl (M = 15.864). The control group reported the lowest post-test scores (M= 10.484).

The use of Fishbowl and Jigsaw Instructional Strategies enhance pupils' performance in reading comprehension. It is recommended that, it should be used as learning packages for reading comprehension to help the pupils to develop positive attitude towards reading comprehension.

It is further recommended that teachers in inclusive schools should explore the use of Jigsaw Instructional Strategy at the Basic Inclusive Schools level, since it has potential of improving pupils' performance in reading comprehension. Moreover, appropriate courses need to be introduced into teacher education programmes for the training of teachers in inclusive schools, in the skills of designing and developing useful packages for reading comprehension.

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References

Ainley, M., Hidi, S. and Berndorff, D. (2002). Interest, learning and the psychological processes that mediate their relationship. *Journal of Educational Psychology,* 94(3): 545–61.

Berkant, H. G. (2007). *An investigation of students' means casual thinking abilities in terms of academic achievement, reading comprehension and gender.* EDAM- Education Consultancy Limited: Adana, Turkey.

Cho, S., Xu, Y. and Thodes, J. (2010). Examining English learners' motivation of, and engagement in, reading: A qualitative study. *Reading Matrix: An Online Journal,* 10(2): 205-21.

Creswell, J. W. (2008). *Educational research: Planning, conducting and evaluating quantitative and qualitative research.* Merrill Prentice Hall: New Jersey.

Gray, D. (2004). *Doing research in the real world.* SAGE Publication: London.

Jaya, A. and Habibi, A. (2016). Fishbowl technique and learning interest effects on speaking achievement of smk sembawa. *Jambi-English Language Teaching Journal,* 1(1): 1-11.

Kohn, A. (1999). *The schools our children deserve: Moving beyond traditional classrooms and tougher standards.* Houghton Mifflin: Boston, MA.

Leonard, D. and Smith, M. (2001). Gender and learning: Equity, equality and pedagogy. *Support for Learning,* 16(3): 112-16.

Mouton, J. (2001). *How to succeed in your master's and doctoral studies: A South African guide and resource book.* Van Schaik Publishers: Pretoria.

Mullis, I. V. S., Martin, M. O., Kennedy, A. M. and Foy, P. (2007). *PIRLS 2006 international report: IEA's progress in international reading literacy study in primary schools in 40 countries.* Chestnut Hill, MA: Boston College.

Paris, S. G. and Oka, E. R. (2004). *Children are reading strategies, metacognition and motivation.* Department of Psychology: Michigan.

Richard, L. M. and Joseph, J. B. (2008). Techniques for encouraging peer collaboration online threaded discussion or fishbowl interaction. Kearney: College of Natural and Social Sciences, department of Psychology. *Journal of Instructional Psychology,* 35(1): 90-101.

Snow, C., 2002. "Reading for understanding: toward an R and D program in reading comprehension." In *Santa Monica: RAND Reading Study Group. Supervision and Curriculum Development.*

Vaughn, S., Hughs, M. T., Schumm, J. S. and Klinger, J. (1998). Collaborative effort to enhance reading and writing instruction in inclusion classrooms. *Learning Disability Quarterly,* 21(1): 57-74.

Walker (2005). *Thinking aloud: Struggling readers often require more than a model.* International Reading Association: Newark, DE.

Walker and Crogan, M. (1998). *Academic performance, prejudice and the jigsaw classroom: New pieces to the puzzle.* Wiley and Sons Limited: Australia.

Watson, S. (2010). *The inclusional classroom.* The New York Times Company: New York.

Weidman, R. and Bishop, M. J. (2009). *Using the jigsaw model to facilitate cooperative learning in an online course.* Lehigh University: Bethlehem.

Yehle, A. K. and Wambold, C. (1998). An ADHD success story: strategies for teachers and students. *Teaching Exceptional Children,* 30(6): 8-13.