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EFFECT OF REVERSED JIGSAW COOPERATIVE LEARNING STRATEGY ON PUPILS' ACADEMIC PERFORMANCE IN SOCIAL STUDIES IN KONTAGORA LOCAL GOVERNMENT AREA OF NIGER STATE

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Abstract

The researcher investigated the effect of reversed jigsaw cooperative learning strategy on pupils' academic performance in Social Studies in Kontagora Local Government Area of Niger State. Researcher adopted quasi-experimental research design. A factorial design of 2X2 was adopted to test the hypotheses. The population was pupils in all primary schools Kontagora Local Government Area Of Niger State. Sample size for this study was four primary 5 classes with 87 pupils. The multistage sampling technique was used for collection of data. Three hypotheses were formulated, Instruments were subjected to face and content validity by experts in Social Studies. Test retest method was adopted to ascertain the reliability of the instrument which was 0.81. Hypotheses were tested, with Analysis of Covariance (ANCOVA). Findings shown that there was significant effect of reversed jigsaw cooperative learning strategy on pupils' academic performance in Social Studies, There was no significant effect of gender on pupils' academic performance in Social Studies in Kontagora Local Government Area of Niger State and there was no significant effect of treatment and gender on pupils' academic performance in Social Studies in Kontagora Local Government Area of Niger State. Finally, recommendation were made, Social Studies teachers should be informed on the effect of reversed jigsaw cooperative learning strategy on pupils' academic performance in Social Studies.

Keywords: Reversed jigsaw cooperative learning strategy, academic performance and social studies.

INTRODUCTION

Regular poor academic performance by most of the pupils in social studies is regularly connected to the ineffective teaching methods by teachers who impart knowledge. Other causes of poor performance in Social Studies among school pupils include misconception of the subject Social Studies. Okobiah (2014), noted that Social Studies by understanding are human relationships which aims at producing citizens with skills, competences, moral values, and judgment to effectively live, interact and contribute positively to the economic, social, political and cultural development of the Nigerian society and the world in general. In the views of Osakwe and Itedjere (2014), Social Studies is an interdisciplinary study that examines people and how they interact with their environment. For Barth, Shermis, Nwalado et al (2014), it is a study in which pupil's acquire knowledge of citizenship and reflective inquiry. This view is in accordance with the viewed of Kissock (2017), who noted that Social Studies is a program of study which a society uses to instill in Pupil's the knowledge, skills, attitudes and actions it considers important, concerning the relationships human beings have with each other, their world and themselves. Thus, Social Studies is a discipline that promotes world citizenship.

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Beard and Nwalado (2007), alluded that, Social Studies is the creation of rich and many sided personality equipped with practical knowledge and inspired by ideas so that they can make their way and fulfil their mission in a changing society which is part of a complex world.

In support of this assertion, Researchers such as Gumel (2015), Samuel (2018), Isa (2018) and Samuel and Sambo, (2019) observed that poor instructional strategies employed in the teaching of social science subjects by using Jigsawas a cooperative learning model that was developed by Elliot Aronson and his colleagues in 1978. This is one of the learning strategies under cooperative learning in which, the content of the lesson is subdivided into different parts of information and then given to groups of pupil's who would later explain to each other their parts and results in the whole jigsaw puzzle to be completed (Aronson 2010). In Jig-saw technique, pupils are divided into small groups of 5-6 known as the Jigsaw groups, and the concept to learn is broken into segments. Each pupil's in the Jigsaw group is assigned a segment to specialize on as all pupils with same topic or segment form the expert groups. After the session, they reconvene in their Jig-saw groups where each expert explains his/her topic to other members of the Jig-saw group after which they take up quiz individually without help or assistance from the other group members. The scores of the individual members are summed up to form the group scores which are used to reward the best group (Sahin, 2010).

This is one of the newest methods created by Hedeen (2013) under the cooperative learning techniques used in classroom settings. It follows the same principle as the original Jigsaw method. The jigsaw technique in the cooperative learning methods used a small group structure to facilitate group discussion through which the learning takes place. The reverse jigsaw method also resembles the original jigsaw method in some ways but has its own objectives to be fulfilled.

While the jigsaw method focuses on the pupil's comprehension of the Instructor's material, the reverse jigsaw method focuses on the participant's interpretations such teachers contribute to pupil's under performanceas perceptions, judgments through a very active discussion. This method was mainly created to cater for the higher class pupil's. It is best advised to give an explanation before the discussion of the topics takes place. This not only ensures that the learners are more effective in their discussion but also saves time. It differs from the original Jigsaw during the teaching portion of the activity. In the Reverse Jigsaw technique, pupil's in the expert groups teach the whole class rather than return to their home groups to teach the content (Heeden, 2013).

The process involved in the reverse Jigsaw method can be explained in 3 steps according to Heeden, (2013). Pupil's gather in mixed groups where they are each given a case study with a number of questions or one complex question and allotted time of about 15 minutes to discuss. Each member of the team is given a unique topic and hence a discussion is initiated within the mixed group and the main points and the outcomes are noted; each member gather in the expert group or topic group and the points and outcomes are compared. A report is prepared by compiling all the common and divergent themes. The time allotted for this could be between 15 - 20 minutes. A reporter is appointed to present the same topic before the class, the class gathers as a whole and the reporters from the individual topic group present their report to the whole class by ways of Overheads, flipcharts or chalkboard, following which the instructor debriefs the whole exercise with review or evaluation of the process. Gender was considered to be one of the moderating variables which is capable to influence the outcome of the study.

Olson, Muhammad and Isa (2018) reported that female pupil's performed better than males pupil's when taught Mathematics and sciences using cooperative learning. Lakpini (2016) revealed that male pupil's received more criticism from their teachers than their female counterparts as such that affects their performance in sciences (chemistry). Contrarily, Khairulanuar, Nazre, Sairabanu et al (2010) found gender differences in favour of male pupil's. Muhammad, (2017) opined teachers spoke more frequently to boys, asked the boys more questions, praised boys for quality work, and girls for neatness. Even though, Gumel, (2015) and Timayi et al (2015) reported that gender had no effect on the academic achievement of pupil's in jigsaw cooperative learning settings. These contradictory findings have caused for the inclusion of gender as the moderating variable for this study.

Statement of the Problem

The consistent decline in the academic performance of social studies in Kotangora Local Government Area of Niger state is the major problem that prompted this investigation. This has been a source of focus to ministries of education more especially, social studies is an important subject in schools. In the recent years, according to Chief Examiner of Niger State Universal Basic Education Board (2017) reported that 2017 is better than 2016 yet not encouraging at all. Based on this reason, the researcher investigated the effect of Reversed Jigsaw cooperative learning Strategy on pupils' Academic Performance in Social Studies. For any meaningful learning to occur, there should be trained and qualified teachers employing appropriate instructional strategy. This implies that for effective teaching of social studies, teachers have to select appropriate instructional strategies, which will appeal to the pupils, arouse their interest and enable them achieve

excellent performance. Research has shown that in Kontagora Local Government Area of Niger state, a lot of instructional strategies have been used to deliver lessons for the pupils, yet their academic performance in social studies is not encouraging as a result of method adopted by teachers which does not give room for active participation. And one of the instructional strategies that gives room for pupils active participation is reverse jigsaw instructional strategy. Therefore, this study is intended to investigate the effect of Reversed Jigsaw cooperative learning Strategy on pupils' Academic Performance in Social Studies in Kontagora Local Government Area of Niger State.

Research Hypotheses

The following research hypotheses were formulated;

$H_0$1: There is no significant effect of treatment on pupils' academic performance in Social Studies in Kontagora Local Government Area of Niger State

$H_0$2: There is no significant effect of gender on pupils' academic performance in Social Studies in Kontagora Local Government Area of Niger State

$H_0$3: There is no significant interaction effect on treatment and gender on pupils' academic performance in Social Studies in Kontagora Local Government Area of Niger State

Methodology

The researcher adopted quasi-experimental research design. The design is suitable in establishing the possible cause and effect relationship. A factorial design of 2X2 was adopted to test the null hypotheses. The population was all pupils in all primary schools in Kontagora Local Government Area of Niger State. Sample size four primary five classes. The multistage sampling technique was used. Purposive sampling was adopted to select 4 mixed primary schools because of certain characteristics they possessed that relevant to the conduct. Schools are classified into two strata from which four schools were randomly selected. Pupils' Social Studies Performance Test (PSSPT) Instructional Guide for Reversed Jigsaw Cooperative Learning Strategy (IGRJCLS) and Instructional Guide for Conventional Method (IGCM). Instruments were given face and content validity by some selected Social Studies experts, 25 copies of the test were administered two times on primary 5 pupils in another school outside sample. The final drafts were tested twice within an interval of two weeks. Thereafter, Pearson Product-Moment Correlation (PPMC) coefficient, the reliability index was 0.81. The data were analyzed using the inferential statistics of mean, mode and percentage.

Results

Research Hypothesis One: There is no significant main effect of treatment on pupils' academic performance.

Table 1: Showing summary of Analysis of Co-variance (ANOVA) on effect of treatment on pupils' academic performance

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	1005.130[a]	3	335.043	3.376	.022
Intercept	18416.318	1	18416.318	185.550	.000
Pretest	24.165	1	24.165	.243	.623
Treatment	551.343	1	551.343	5.555	**.021**
Gender	41.569	1	41.569	.419	.519
Treatment * Gender	14.782	2	7.391	.630	.534
Error	8237.973	83	99.253		
Total	350025.000	87			
Corrected Total	9243.103	86			

Table 1, show the effect of effect of treatment on pupils' academic performance. ($F_{(2;\ 83)} = {}_{5;\ 555}$, $P < 0.05$). The hypothesis was rejected in the light of the result since the significant value (.021) is less than 0.05. This shown that treatment had significant effect on pupils' academic performance.

Table 2: Summary of Bonferroni's Post Hoc pairwise Comparison of the scores within the three Groups

Treatment	Mean Score	Experimental	Control Group
Reversed Jigsaw	64.609		*
Conventional Method	56.557	*	

Table 2 reveals that the significant main effect exposed by table 1 is as a result of the significant difference between: Reversed Jigsaw Learning Strategy and Conventional Method. Reversed Jigsaw Learning Strategy refers to experimental group and Conventional Method known as control group. This implies that those taught with Reversed Jigsaw Learning Strategy performed better than those taught traditional method.

Hypothesis Two: There was no significant effect of gender on pupils' academic performance in Social Studies in Kotangora Local Government Area of Niger state ($F_{(2; 83)} = .419$ $P > 0.05$).
Hypothesis Three: There was no significant interaction effect on treatment and gender on pupils' academic performance in Social Studies in Kotangora Local Government Area of Niger State ($F_{(2; 83)} = .630$ $P > 0.05$).

Discussion of the findings

The findings revealed that there was significant main effect of treatment on pupils' academic performance in Social Studies in Kotangora Local Government Area of Niger State. It shown that reversed jigsaw cooperative learning strategy improved pupils performance in in Social Studies in Kotangora Local Government Area of Niger State. This findings are consistent with that of Ajaja and Eravwoke (2010); Kabutu, Oloyede and Bandele (2015); Gambari and Yusuf (2017) and Omiko (2017), who in their various research studies reported that Pupil's taught using cooperative learning strategies achieved better academically than those taught using the conventional (lecture) method. it disagreed with the earlier findings of Abdulrahim and Al-shakili (2005) and Igbal (2004) that cooperative learning strategy and traditional lecture method produce similar effect in terms of retention of mathematical concepts.

The results also showed that there was no significant effect of gender on pupils' academic performance in Social Studies in Kotangora Local Government Area of Niger State. The study was in line with Olarewaju (2022), his results revealed that there was no significant difference in gender and pupils academic performance. The study also revealed that there was no significant interaction effect on treatment and gender on pupils' academic performance in Social Studies in Kotangora Local Government Area of Niger State.

Conclusion

The study examined the effect of reversed jigsaw cooperative learning strategy on pupils' academic performance in social study in Kotangora Local Government Area of Niger State. Based on the findings of the study, it was revealed that those pupils taught with reversed jigsaw cooperative learning strategy performed better than those taught with conventional method of teaching.

Recommendations

Based on the findings of the study, primary school teachers should endeavor to adopt the reversed jigsaw cooperative learning strategy in teaching pupils, curriculum developer should integrate reversed jigsaw cooperative learning strategy in curriculum for prospective teachers, and training for in service teachers.

REFERENCES

Abdullahi, S. M., &Salisu, M. (2017).Effect of Jigsaw teaching method on the perfroamcne of senior secondary school Pupil's in Arabic language in Ilorin Metropolis, Nigeria.*Asia Pacific of Education, Arts and Sciences, 4*(1), 48 – 52.

Aronson, E. (2018). *History of Jigsaw*.Retrievedfrhttp://www.jigsaw.org/history.htmretrieved27/1/2017

Gambari , I.A. Olumorin, C.O &Yusuf, M.O, (2015) Effectiveness of Computer-Supported Jigsaw ii Cooperative Learning Strategy on the Performance of Senior Secondary School Pupil's in Physics.

Gumel, S.A (2015).Effects of Jigsaw Model of Cooperative Learning on Self-efficacy and Achievement in Chemistry among Concrete and Formal Reasoners in Colleges of Education in Nigeria. Department of Science Education, AhmaduBello University, Zaria, 34-40.

Federal Republic of Nigeria (2014).*National policy on education*. Lagos: Federal Government Press.

Hedeen, T. (2013). The reverse Jigsaw: A process of cooperative learning and discussion. *Teaching Sociology,*31(3), 325-332.

Holliday, D. C. (2002).*The development of Jigsaw IV in a secondary social studies classroom.* Lanham, MD: University Press of America, *23-25*.

Iqbal, M. (2004).Effects of co-operative learning on academic achievement of secondary school Pupil's in mathematics. Unpublished Thesis, *University of Arid Agriculture / Institute of Education and Research* .Pakistan. Retrieved from www.eprint.hecing. 31/10/2

Jansoon, N.,Somsook, E. & Coll, R. K. (2008). The undergraduate chemistry practical learning experiences using the Jigsaw II method. *Journal of Science and Mathematics Education in Southeast Asia, 31(2), 178-200.*

Khairulanuar, S., Nazre, A.R., Sairabanu, O.K. &Norasikin, F. (2010).Effects of Training Method and Gender on learning 2D/3D Geometry.*Journal of Computers in Mathematics and Science Teaching, 29*(2), 175 - 188. Chesapeake, VA: AACE.
Retrieved on the 15th April, 2017, from http://www.editlib.org/p/33188

Isa, M.I. (2018). Effect of JigsawIV Cooperative Learning Strategy on Pupil's' Perception, Retention and Academic Performance in Organic Chemistry in Zaria Education Zone,

Isa I.M and Muhammad B.A (2019) Effects of Jigsaw IV Cooperative Learning Strategy on Pupil's' Academic Performance in Organic Chemistry in Zaria Education Zone, Kaduna State, Nigeria. *InternationalJournal of Chemistry and Materials Research. Vol.11 No.9*
ISSN 2224- 3224(print) ISSN 2225-0956.

Lakpini, M. A. (2016) Effect of a Conceptual Change Instructional Strategy On The \ Achievement, Retention and Attitude of Secondary School Biology Pupil's with Varied Ability. Unpublished PhD Dissertation, Ahmadu Bello University, Zaria.

Mohammed N.N (2017). The Effect of Interactive Engagement Teaching Strategy on Academic Performance and Retention in Chemistry among Secondary School Pupil's in

Muhammad, B.A & Isa, I.M (2018). Influence of 5E teaching cycle on Attitude, Retention and Academic, Performance of Chemistry Pupil's of varied abilities in Mole Concepts among Senior Secondary School in Zaria Educational Zone. Unpublished Research Dissertation. School of Science, Federal College of Education Zaria.

Olarewaju, Y. (2022), Effect of Numbere-Heads Together method on pupils academic performance in Ilorin East Local Government Area of Kwara State, kwara state university, malete

Sahin, A. (2010). Effects of Jigsaw III technique on achievement in written expression. *AsiaPacific Education Review, 12*(3), 427-435.http://dx.doi.org/10.1007/s12564-010-9135-8on 12-3