

# Effect of Numbered-Heads-Together Method on Pupils' Academic Performance in Social Studies in Ilorin East Local Government Area of Kwara State

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**Abstract:** *Effect of Numbered-Heads-together on pupils' Academic achievement in Social Studies, The research design adopted was the pre-test, post-test, control group quasi-experimental research design. The population consisted of all the primary school pupils. Sample size for the study was 4 primary four classes. Three Instruments were used and seven hypotheses were formulated to guide the study. The instruments were validated by six experts. The Pearson's Product Moment Correlation (PPMC) was used to determine the reliability index of 0.88. The research hypotheses were tested, using Analysis of Covariance (ANCOVA) at 0.05 level of significance. Findings showed that there was significant effect of Numbered-heads-together on pupils' academic achievement in Social Studies. Numbered-Heads-together enhanced better performance in Social Studies than the traditional method of teaching. Recommendation, Social Studies teachers should be enlightened on the effectiveness of Numbered-Head-together on pupils' academic performance in Social studies.*

**Keywords:** Numbered-heads-together and academic performance

## Introduction

The success of an educational institution is measured by academic performance or how a pupil meets the standards set out by the institution. The performance of students has for long generated interest among educators, researchers, government officials, parents, and the pupils themselves. Moradeyo (2015) stated that academic performance refers to what children achieve in their studies and how they cope with or accomplish different learning tasks given to them by their teachers. This is usually used to determine the outcome of teaching and learning activities as related to educational goals and objectives especially in Social Studies.

Afolabi (2003) also revealed that poor academic achievement by pupils are always linked to the inability on the part of pupils to understand what has been taught neglecting the fact that the totality of what took place around the learners result to what influences the learners' performance most especially the teachers and their classroom practices and characteristics. The poor performance in general paper was experienced in previous common entrance examinations, 2018 and 2019 respectively where pupils performed in general paper woefully (Kwara state Ministry of Education).

Ajiboye and Ajitoni (2008) observed that pupils learn best when they have interest and actively involved in their work, seeing themselves, doing themselves, puzzling themselves, confirming their own believes, experimenting themselves, making decisions themselves on the strong-point on ground which they have gathered themselves. Pupils always make mistakes which they themselves should rectify with the new knowledge and grounds uncovered, themselves. This methodological concept should be participatory via interaction, unity, and action-oriented communication. Numbered-Heads-Together and Heuristic Methods belong to these pedagogic concepts.

Research has shown that one of the cooperatives learning which gives more time for pupils to think to improve involvement, which facilitates pupils to acquire higher level thinking skill from their peers is the Numbered-Heads-Together (Maheady,2006). Number-Heads-Together learning model is situation, whereby pupils are conditioned to contribute thoughts and responsibilities to the achievement of individual and group learning outcomes. According to Trianto (2013), the Numbered-Heads-Together learning model is the kind of cooperative learning that is designed to affect pupils' interaction pattern and as an alternative to the traditional classroom structure; there are four phases in Numbered-Heads-Together learning, which are numbering, asking questions, thinking together, and answering.

There are so many factors affecting pupils' academic achievement in Social Studies such factors include: Poor study habits, Anxiety, Poor family structure, Gender, School type. Gender connects to the attributes of both males and females (Nnamani & Oyibe, 2016). However, Brady (2001) stated that in school enrolment, there are more number of males than the females. There was no meaningful difference in academic achievement between pupils in private schools and students in government schools, (Glewe, 2002). Household members selected school type for their children/wards based on their wealth and preference which is suitable to their

taste. This raises the prospect of selection bias in empirical estimates of the effect of school type on just scores. Evidence from school survey is constant with the long standing perception of the superiority of private schools over public schools. There are differences in quality of education based on school type and this will be determined to further confirm what has been done by previous related research.

### Statement of the Problem

Poor performance in Social Studies was as a result of inadequate and inappropriate use of classroom practices by the teachers. This has been the problem to all stakeholders in education more especially that Social Studies is a major subject in schools. The poor academic performance in general paper was experienced in previous common entrance examinations, 2018 and 2019 respectively where pupils performed in general paper woefully in Kwara State.

While theoretical and empirical evidences on the learner-centered method of teaching have been documented in Social Studies across the globe, empirical evidence on some of these innovative strategies as combined in this study are few. To the best of the researcher's knowledge, there seems to be no documented empirical evidence on the effectiveness of Numbered-Heads-Together on pupils' academic achievement in Social Studies in Ilorin East Local Government Area of Kwara State, Nigeria. Although some researchers have worked on other strategies or teaching methods such as role play and problem-solving strategy, jigsaw method of teaching. In spite of these efforts, the problem of pupils' poor academic performance in Social Studies persists. This creates a researchable gap in knowledge, the gap which this study intended to fill by investigating the effectiveness of Numbered-Heads-Together on the pupils' achievement in Social Studies.

### Purpose of the Study

Main purpose of this study was to examine Numbered-heads-together on pupils' academic performance in Social Studies. Specifically, the purposes were to determine the;

- 1 Main effect of treatment on pupils' academic performance in Social Studies
- 2 Gender on pupils' academic performance in Social Studies
- 3 School type on pupils' academic performance in Social Studies
- 4 Interaction effect of treatment and gender on pupils' academic performance in Social Studies.
- 5 Interaction effect of treatment and school type on pupils' academic performance in Social Studies.
- 6 Interaction effect of gender and school type on pupils' academic performance in Social Studies.
- 7 Interaction effect of treatment, gender, and school type on pupils' academic performance in Social Studies.

### Hypotheses

The following research hypotheses were formulated for the study;

**H<sub>01</sub>:** There is no significant main effect of treatment on pupils' academic performance in Social Studies.

**H<sub>02</sub>:** There is no significant effect of gender on pupils' academic performance in Social Studies.

**H<sub>03</sub>:** There is no significant effect of school type on pupils' academic performance in Social Studies.

**H<sub>04</sub>:** There is no significant interaction effect of treatment and gender on pupils' academic performance in Social Studies.

**H<sub>05</sub>:** There is no significant interaction effect of treatment and school type on pupils' academic performance in Social Studies.

**H<sub>06</sub>:** There is no significant interaction effect of gender and school type on pupils' academic performance in Social Studies.

**H<sub>07</sub>:** There is no significant interaction effect of treatment, gender, and school type on pupils' academic performance in Social Studies.

### Methodology

The research design adopted was the pre-test, post-test, control group quasi-experimental research design. Hence, a factorial design of 2x2x2 was used. The first factorial level was the experimental group (Numbered-Heads-Together Method) and the control group. The second factorial level was gender in either male (M) or female (F). While the third factorial level was the school type in either public or private. However, the experimental received the pre-test and post-test before and after the treatment respectively, while control group received the pre-test and post-test before and after the placebo. The population for this study comprised of all the primary school pupils in Ilorin East Local Government Area of Kwara State.

Sample size, four primary four classes. The multistage sampling technique was used. The purposive sampling technique was used to select 4 mixed primary schools (Boys and Girls schools) because of certain and relevant characteristics they possessed that is relevant to the conduct of this study.

Three Instruments were used to elicit information from the participants including treatment packages. Social Studies Performance Test (SSPT), Instructional Guide for Number-Heads-Together Method (IGNM) and Instructional Guide for Conventional Method (IGCM). More so, Social Studies Performance Test (SSPT) was constructed by the researcher with the aid of primary four curriculum. It consisted of two sections A and B. Section A is for the participants profile like school name, school type, gender, class and subject. Section B comprised 20 multiple choice items with four options (lettered A to D) based on the topics drawn from the Social Studies curriculum that were taught. The instruments were given face and content validity by the Social Studies experts and lecturers in the Department of Early Childhood and Primary Education Kwara State University, Malete.

25 copies of the instruments were trial-tested two times, giving two weeks interval on the randomly selected pupils outside the sample schools. Thereafter, the Pearson's Product Moment Correlation (PPMC) was used to determine the reliability index of 0.88. The treatment lasted for seven weeks. The data were analyzed using inferential statistics. The hypotheses were tested, using Analysis of Covariance (ANCOVA) at 0.05 level of significance.

## Result

**Hypothesis One:** There is no significant main effect of treatment on pupils' academic performance in Social Studies

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

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	920.767 <sup>a</sup>	12	76.731	6.484	.000
Intercept	5279.663	1	5279.663	446.162	.051
Pretest	12.870	2	6.435	.544	.672
<b>Main Effect</b>					
Treatment	516.175	1	516.175	43.620	.000
Gender	87.814	2	43.907	3.710	.468
School type	4.146	1	4.146	.350	.365
<b>Two way Interaction</b>					
Treatment * Gender	40.010	1	40.010	3.381	.689
Treatment * School type	1.531	2	4.537	.065	.897
Gender * School type	6.282	2	3.141	.265	.432
<b>Three way Interaction</b>					
Treatment * Gender * School type	13.900	1	13.900	1.175	.342
Error	1230.686	104	11.834		
Total	124792.000	117			
Corrected Total	2151.453	116			

Table 1 shows the effect of treatment on pupils' academic performance in Social Studies. There was significant effect of treatment on pupils' academic performance in Social Studies ( $F_{(1; 104)} = 43.620$ ,  $P < 0.05$ ). The hypothesis is therefore rejected in the light of the result since the significant value (.000) is less than 0.05. This implies that treatment had significant effect on pupils' academic performance in Social Studies.

**Table 2: Summary of Bonferroni's Post Hoc pairwise Comparison of the scores between two Groups**

Treatment	Mean Score	Experimental 1	Control Group
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Numbered-Heads-Together	78.333		*
Conventional Method	68.833	*	

Table 2 reveals that the significant main effect exposed by table 1 is as a result of the significant difference between: Numbered-Heads-Together Method, and Conventional Method. Numbered-Heads-Together Method referred to experimental group and Conventional Method known as control group. This implies that those taught with Numbered-Heads-Together performed better than those taught with traditional method.

**Hypothesis Two:** There was no significant effect of gender on pupils' academic performance in Social Studies ( $F_{(2; 104)} = 3.710$ ;  $P > 0.05$ ).

**Hypothesis Three:** There was no significant effect of school type on pupils' academic performance in Social Studies ( $F_{(1; 104)} = .350$ ;  $P > 0.05$ ).

**Hypothesis Four:** There was no significant interaction effect of treatment and gender on pupils' academic performance in Social Studies ( $F_{(1; 104)} = 3.381$ ;  $P > 0.05$ ).

**Hypothesis Five:** There was no significant interaction effect of treatment and school-type on pupils' academic performance in Social Studies ( $F_{(2; 104)} = .065$ ;  $P > 0.05$ ).

**Hypothesis Six:** There was no significant interaction effect of gender and school-type on pupils' academic performance in Social Studies ( $F_{(2; 104)} = .267$ ;  $P > 0.05$ ).

**Hypothesis Seven:** There was no significant interaction effect of treatment, gender and school-type on pupils' academic performance in Social Studies ( $F_{(1; 104)} = 1.175$ ;  $P > 0.05$ ).

### Discussion of Findings

Findings emanated from this study shown that there was significant effect of Numbered-Heads-Together on pupils' academic performance in Social Studies in Ilorin East Local Government Area of Kwara State. This signifies that the pupils taught using Numbered-head-together performed better than their counterparts taught with conventional method. This finding supported the submissions of Nursyamsi and Aloysius (2015) which examined the effectiveness of Numbered-Heads-Together learning strategy on student's retention. They concluded that there is a difference of the retention between the students taught by using NHT learning strategy and those taught by using conventional learning. The findings also concurred with Siti and Ari (2018) which carried out a study on effects of type Learning Model Numbered heads together and Think Pair Share. Result of the data analysis can be concluded that there is difference of the mean result of pupils learning of mathematics using NHT learning models

The second finding of study showed that, there was no significant effect of gender on pupils' academic performance in Social Studies. This implies that gender had no significant effect on pupils' academic performance in Social Studies in Ilorin East Local Government Area of Kwara State. This implies that the gender of the pupils do not have any significant influence on pupils' academic performance. The findings from this study was supported by the findings of Fauto and Friedman (2005), who submitted that there was no significant difference between male and female cognitive ability.

The third finding also shown that there was no significant effect of school-type on pupils' academic performance in Social Studies in Ilorin East Local Government Area of Kwara State. The fourth finding also revealed that there was no significant interaction effect of Numbered-Head-together and Heuristic methods and gender on pupils' academic performance in Social Studies. This implies that Numbered-Head-together and Heuristic methods and gender had no significant effect on pupils' academic performance in Social Studies in Ilorin East Local Government Area of Kwara State.

The fifth finding disclosed that there was no significant interaction effect of Numbered-Head-together and school type on pupils' academic performance in Social Studies. This implies that Numbered-Head-together and school-type had no significant effect on pupils' academic performance in Social Studies in Ilorin East Local Government Area of Kwara State. This finding implies that the school type, (public and private schools) do not influence academic performance of the pupils' based on Numbered-Head-together and Heuristic methods

The sixth finding divulges that there was no significant interaction effect of gender and school-type on pupils' academic performance in Social Studies. This implies that gender and school-type had no significant effect on pupils' academic performance in Ilorin East Local Government Area of Kwara State. The seventh finding brings to light that there was no significant interaction effect of Numbered-Head-together gender and school-type on pupils' academic performance in Social Studies. This implies that Numbered-Head-together gender and school-type had no significant effect on pupils' academic performance in Social Studies in Ilorin East Local Government Area of Kwara State.

### Conclusion

The study examined the effect of Numbered-Heads-Together on pupils' academic performance in Social Studies. Based on the findings of the study, it can be explicitly stated that Numbered-Head-together can enhance better performance in Social Studies than the traditional method of teaching and learning.

### Recommendations

In the light of the findings, the recommendations were made:

Social Studies teachers should be enlightened on the effectiveness of Numbered-Heads-together on pupils' academic performance in Social Studies, curriculum developer in Social Studies like, Federal and State Ministries of Education, school proprietors and Nigerian Educational Research and Development Council (NERDC) should incorporate Numbered-Heads-together into the Social Studies curriculum as the innovative strategy that would be used to teach Social Studies especially in basic schools and Pupils' academic performance was not determined by the teachers, head teachers and proprietors/proprietress based on their gender school type.

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