



Affective Response of Students on the Integration of Think-pair-share and Reciprocal Teaching Methods on Upper Basic Education Social Studies Students in Imo State, Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The affective response of students on the integration of think-pair-share and Reciprocal Teaching methods on upper basic education social studies students in Imo State, Nigeria has been rigorously assessed to ascertain the attitude of students towards the use of these learning methods. Two research objectives were proposed to guide the study; two research questions were posed; while two hypotheses were equally raised and tested at 0.05 level of significance. The study adopted the descriptive survey design. The population for the study comprised the entire 98,054 public Upper basic 11 Education students in Imo State from 285 government owned secondary schools in Imo State, a total sample of 400 students were sampled. The instrument for data collection was a researcher-made Questionnaire on the Attitude of Students towards Think-Pair-Share and Reciprocal Teaching methods (QASTPS&RT). The research instrument was appropriately validated by software design experts, educational technology professionals, behavioral

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psychologists, and Social Studies teachers. The reliability of the instrument was determined through a pilot study that was conducted using JSS2 Social Studies students from one co-educational school within the study area but outside the schools sampled for the main study. The data obtained were analyzed using Cronbach alpha's formula, and an internal consistency coefficient value of 0.70 was obtained. The study reveals that the attitude of students is highly related to the acquisition of knowledge using the Think-Pair-Share approach. There is a high positive relationship existed between the Think-Pair-Share and Reciprocal Teaching methods; and students attitude in students Social Studies learning in Imo State. Based on these findings, there is need for the incorporation of modern instructional methods into the teaching and learning of Social Studies in junior secondary schools. This will ensure that students are abreast with global best practices which enhance achievement.

Keywords: Think-pair-share; reciprocal teaching; affective response; attitude; social studies; academic achievement.

1. INTRODUCTION

Affective response (AR) can be defined as the general psychological state of an individual, including but not limited to emotions and mood, within a given situation. In its most basic context, AR is used to describe an individual's subjective experience (i.e., intrapersonal or experiential core) of all valenced responses; i.e., those that involve the potential for both positive and negative dimensions [1,2]. According to Bo Lundahl [3] affective responses, such as feelings, motivation, stress, and attitudes, can both positively and negatively affect learning outcomes. Motivation, attitude, anxiety, and self-confidence are the 4 major affective factors that contribute to the raising or lowering of the affective filter [4,5].

Attitudes are acquired through learning and can be changed through persuasion using variety of techniques. Attitudes, Once established, help to shape the experiences the individual has with object, subject or person. Although attitude changes gradually, people constantly form new attitudes and modify old ones when they are exposed to new information and new experiences [6,7]. Obinna-Akakuru et al., [8] defines attitudes as an internal state that influences the personal actions of an individual, he recognized attitude as a major factor in subject choice. He considers attitudes as a mental and neutral state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's responses to all objects and situations with which it is related. Teachers have the opportunity of structuring lessons cooperatively, competitively or individualistically and the decisions teachers make in structuring lessons can influence students' interactions with others, is created

whereby the teacher can talk to the students directly or in small groups [9,1].

Attitude of pupils is likely to play a significant part in any satisfactory explanation of variable level of performance shown by students in their school science subject [2,10]. Ogunleye [11] in his finding reports that many students developed negative attitudes to science learning, probably due to the fact that teachers are unable to satisfy their aspiration or goals. Alao [12] showed that there is positive correlation between attitudes and performance in the science subjects.

In his earlier study, Mezieobi [13] asserted that, there is only one method of teaching Social Studies, that is, activity based method, but with an array of technique such as inquiry, discussion, role-play dramatization, fieldtrip, stimulation among other related techniques that are interactive in approach. Think-pair-share and Reciprocal Teaching shares in all the characteristics of an activity-based technique [14,15].

Think-pair-share is a collaborative teaching strategy first proposed by Frank Lyman of the University of Maryland in 1981. Think-pair-share learning method is used as an umbrella term for a variety of approaches in education that involve joint cooperative or collaborative efforts by students and teachers [16,17]. It is one of the most common types of cooperative learning method. It is a low-effort, low-stakes method for abbreviated collaboration and active learning. In this kind of learning, learners share their ideas with others, consider peer responses, and ultimately engage in discussions in a manner that starts to synthesize an exchange [18,6].

Reciprocal teaching (RT) is another student-centered instructional approach which students and teachers switch roles in a lesson. It is a cooperative learning instructional method in which natural dialogues model reveal learners' thinking processes about a shared learning experience [19],(Owan, et al., 2018). Teachers foster reciprocal teaching through their belief that collaborative construction of meaning between themselves and students lead to a higher quality of learning [20,2]. Students take ownership of their role in reciprocal teaching as they feel comfortable expressing their ideas and opinions in open dialogue. They take turns to articulate with each learning method employed. The learning community is able to reinforce understanding and to see, hear and correct misconceptions that otherwise might not have been apparent.

1.1 Statement of the Problem

Over the years, there has been a clarion call by the Federal Government and indeed the stakeholders in education to carry out the objective of the establishment of Social Studies in Nigeria. In order to attain these objectives, the Federal Government requires teachers (as role models) take the lead in changing the focus of Social Studies lessons from academic to socialisation function. Through the verbal presentation of instructions or information to junior secondary students who expectedly are to develop a common set of understanding, appropriate skills, competencies, attitudes and actions that increase human interaction, coexistence, relationship and societal development [21,22]. Having introduced these two teaching methods (Think-Pair-Share and Reciprocal Teaching), this research seeks to know the acceptability and attitude of students towards these teaching methods, thereby ascertain its efficacy or otherwise, in the Upper Basic school system.

2. PURPOSE OF THE STUDY

The purpose of the study is to assess the affective response of students on the integration of think-pair-share and Reciprocal Teaching methods on upper basic education social studies students in Imo State, Nigeria. Specifically, the objectives of this study are to:

1. find the effect of Think-Pair-Share on the attitude of students towards Social Studies in Imo State; and

2. examine the effect of Reciprocal Teaching on the attitude of students towards Social Studies in Imo State

2.1 Research Questions

This study was guided by the following research questions:

1. What is the effect of Think-Pair-Share on the attitude of students towards Social Studies in Imo State?
2. What is the effect of Reciprocal Teaching on the attitude of students towards Social Studies in Imo State?

2.2 Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance.

- H₀₁ There is no significant relationship between the attitude of students and the effect of Think-Pair-Share on students' academic achievement in Social Studies.
- H₀₂ There is no significant relationship between the attitude of students and the effect of reciprocal teaching on students' academic achievement in Social Studies.

3. METHODOLOGY

The design of this study is descriptive survey design. The study was carried out in Imo State. The State is in the South-eastern Geopolitical zone of Nigeria. The population for the comprised the entire 98,054 public Upper basic 11 Education students in Imo State from 285 government owned secondary schools in Imo State. The researcher's choice of upper basic II (JSS2) students for the study was based on the fact that Social Studies as a school subject is offered at the Upper basic level of school, which are directly involved in external examination such as the Junior Secondary School Examination Council. The sample for this study was determined using Taro Yamane [23] formula (equation 1) with 95% confidence level, which gave a sample of 400.

$$\text{Taro Yamane formula: } n = \frac{N}{1+N(e)^2} \quad (1)$$

Where: n = sample size required, N = Population, e = allowable error (%)

The research instrument that was used for data collection was a Questionnaire on the Attitude of Students towards Think-Pair-Share and Reciprocal Teaching methods (QASTPS&RT). It was divided into two parts, part one sought for bio-data of respondents, while part two consisted of 20 items on the attitude of students. The 4-point Likert type of response of Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) was adopted in which the items were scored based on the weight of each point – 4, 3, 2, 1 for SA, A, D, SD respectively. The research instrument was appropriately validated by software design experts, educational technology professionals, behavioral psychologists, and Social Studies teachers. The reliability of the instrument was determined through a pilot study that was conducted using JSS2 Social Studies students from one co-educational school within the study area but outside the schools sampled for the main study. The data obtained were analyzed using Cronbach alpha's formula, and an internal consistency coefficient value of 0.70 was obtained. This indicates that the instrument is reliable.

For the main study, after the administration of the instruments to the sampled participants, data collected were analyzed using descriptive statistics (Mean and Standard Deviation) and inferential statistics (Analysis of Variance) with

the aid of Statistical Package for Social Sciences (SPSS) version 23.0 and the significance or otherwise of the stated null hypotheses was ascertained at 0.05 alpha level.

4. DATA ANALYSES AND RESULTS

4.1 Research Question One

What is the effect of Think-Pair-Share on the attitude of students towards Social Studies in Imo State? Table 1.

The Pearson Product Moment Correlation was done to show the effect of attitude on academic achievement using the Think-Pair-Share method of teaching in Social Studies. The calculated r gave a high positive correlation of 0.63. This means that attitude of students is highly related to the acquisition of knowledge using the Think-Pair-Share approach. The critical r value gave 0.173. Since this value is less than the calculated r , the researcher concluded that attitude played a greater role in students' academic achievement in Social Studies when the Think-Pair-Share method is adopted.

4.2 Research Question Two

What is the effect of Reciprocal Teaching on the attitude of students towards Social Studies in Imo State? The summary of the analyzed data is seen in Table 2.

Table 1. Pearson correlation on the effect of think-pair-share on students' attitude

Variable	\bar{x}	SD	r
Attitude	53.78	9.65	*
Think-Pair-Share	20.20	2.63	0.63

Table 2. Pearson correlation on the effect of reciprocal teaching on the attitude of students

Variable	\bar{x}	SD	r
Attitude	56.98	8.34	*
Reciprocal Teaching	20.45	3.14	0.43

Table 3. Summary of t-test analysis on the relationship between attitude of student and think-pair-share teaching approach

Variable	\bar{x}	SD	R	r^2	T	Decision
Attitude	53.78	9.65	*0.63	0.3969	*8.03	Reject H_0
Think-Pair-Share	20.20	2.63				

*Significant, $P < 0.05$; critical $t = 2.000$, calculated $t = 8.03$

The Pearson Product Moment Correlation was computed to examine the effect of Reciprocal Teaching on the attitude of students. The calculated r was 0.43 while the critical r was 0.173. The obtained r showed that there is a positive relationship between the two variables under study. Although the relationship is on the average, the reciprocal teaching has effect on the students' academic achievement in Social Studies.

4.3 Hypothesis One

There is no significant relationship between the attitude of students and the effect of think-pair-share on students' academic achievement in Social Studies in Imo State.

The result of the analyzed data has been summarized in Table 3.

The Pearson Product Moment Correlation coefficient was done to test this hypothesis. The obtained r was 0.63 which is higher than the critical r of 0.173. In order to find the proportion or percentage of the variation caused by the think-pair-share on the attitude of students, the coefficient of determination r^2 was obtained. The $r^2 = 0.3969$ between performance of students using the think-pair-share and attitude of students. This can be interpreted to mean that approximately 40% (0.3969×100) of the performance in the Social Studies test can be accounted for or predicted by students' attitude. The obtained $r = 0.63$ which showed a high relationship between the two variables was also tested for significance by converting the value $r = 0.63$ to a "t" value. The obtained t value gave 8.03 which is greater than the critical t value of 2.000. The null hypothesis was therefore rejected. Rejecting the null hypothesis implies that a high positive relationship existed between the Think-Pair-Share teaching method and students attitude in students Social Studies learning in Imo State. The present result is consistent with some earlier studies which established that in cooperative learning students

gain more experience, improve better attitudes toward the subject matter, develop their social skills, and learn to respect different points of views [24].

4.4 Hypothesis Four

There is no significant relationship between the attitude of students and the effect of reciprocal teaching on students' academic achievement in Social Studies.

The result of the analyzed data has been summarized in Table 4.

The Pearson Product Moment Correlation computed to test hypothesis six gave an r value of 0.43 while the critical value of r remains at 0.173 given 98 degrees of freedom. This value indicates a positive average relationship between the variables under study. In order to find out the percentage or proportion due to the effect of reciprocal teaching on attitude, the researcher squared the $r = 0.43$ to obtain the coefficient of determination r^2 . This gave the value 0.1849 or 18.49%. This can be interpreted to mean that approximately 18% of performance in Social Studies test can be accounted for or predicted by students' attitude. The significance of the correlation coefficient obtained was also ascertain whether a relationship actually existed. The computed t gave a value of 4.71 which is higher than the critical t value of 2.000 at the 0.05 alpha level given 38 degrees of freedom. The null hypothesis of no relationship was therefore rejected. The researcher therefore concluded that a true and positive relationship existed between attitude of students and knowledge acquisition in Social Studies when the reciprocal approach is used. This result is in agreement with the work by Brown et al., [25] who worked on Social Studies teachers and students attitudes toward cooperative learning method in junior secondary schools in port harcourt local government area of Rivers State, Nigeria.

Table 4. Summary of t-test analyses on the relationship between attitude of students and reciprocal teaching

Variable	\bar{x}	SD	R	r^2	t	Decision
Attitude	56.98	8.34	*0.43	0.1849	4.17	$P < 0.05$ Reject H_0
Reciprocal	20.45	3.14				

*Significant, $P < 0.05$; critical $t = 2.000$, calculated $t = 4.71$

5. CONCLUSION AND RECOMMENDATION

The affective response of students on the integration of think-pair-share and Reciprocal Teaching methods on upper basic education social studies students in Imo State, Nigeria has been rigorously assessed. The study reveals that the attitude of students is highly related to the acquisition of knowledge using the Think-Pair-Share approach. There is a high positive relationship existed between the Think-Pair-Share teaching method and students attitude in students Social Studies learning in Imo State. This implies that attitude played a greater role in students' academic achievement in Social Studies when the Think-Pair-Share method is adopted. Furthermore, the researcher observed from the result of this study that a true and positive relationship existed between attitude of students and knowledge acquisition in Social Studies when the reciprocal approach is used. Based on these, the following recommendations are made:

1. There is need for the incorporation of modern instructional methods like Think-Pair-Share and Reciprocal Teaching methods into the teaching and learning of Social Studies in junior secondary schools. This will ensure that students are embraced with global best practices which enhances achievement and retention.
2. Social Studies teachers must train and retrain themselves continuously on the use of instructional resources they should at least understand the organization of content. This will enable students to participate actively in the lesson and arouse the interest of the students.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the authors.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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