

EFFECTS OF INTEGRATED GROUP-BASED MASTERY LEARNING MODEL ON JUNIOR SECONDARY II SOCIAL STUDIES STUDENTS' ACHIEVEMENT IN JOS SOUTH, PLATEAU STATE

Nnenna T. Iorapuu,

Department of Social Science Education,
University of Jos.
Tel: 08034519335

Kumleng G. A. Geofrey,

Department of Social Science Education,
University of Jos.
Tel: 08169769748

&

Daboer Stephen Dakup

Department of Social Science Education,
University of Jos.
Tel: 07032712138

Email: daboerstephendakup2015@gmail.com

ABSTRACT

The quest for the effective methods of teaching Social Studies in Nigerian schools is a continuous one. This research was designed to investigate the effects of Integrated Group-Based Mastery Learning Model on Social Studies Students' Achievement in Junior Secondary Schools in Jos South, Plateau State. Three research questions and three corresponding hypotheses were raised to guide the study. A quasi-experimental design of non-equivalent control group was adopted. Two mixed secondary schools were purposively selected from Jos South out of which, two in-tact classes were selected. One of the two classes was used as the experimental group, taught with integrated Group-Based mastery learning model and the other as control group, taught with the traditional/expository instructional model. There were 50 students in the two groups combined. The instrument used for the data collection was the Social Studies Achievement Test (SSAT). The data collected were analyzed using t-test of independent sample for hypotheses one, two, three while hypotheses were tested using one-way ANOVA, at 0.05 level of significance. The result of the study showed that there was a significant effect of treatment on Social Studies students' achievement. This means that the integrated Group-Based mastery learning model was more effective than the traditional expository method. The result of the study also showed that initial ability level did not have any significant influence on the effect of ML on students' achievement in Social Studies. It was concluded that students' achievement in Social Studies is more likely to improve if more teachers employ the mastery learning. It is recommended that Social Studies teachers should be encouraged through in-service training, seminars or other forms of on-the-job training to employ mastery learning models. Also, teacher-education in the universities and colleges of education should intensify the teaching of skills related to the application of mastery learning model.

Keywords: Effects, Integrated Group-Based Mastery Learning Model, Social Studies, Achievement

Introduction

Education refers to the discipline that is concerned with methods of teaching and learning in schools or school-like environments, as opposed to various non-formal and informal means of socialization. According to World Bank (2023) Education is a powerful driver of development and one of the strongest instruments for reducing poverty and improving health, gender equality, peace, and stability. Developing countries have made tremendous progress in getting children into the classroom and the majority of children worldwide are now in primary school. Nevertheless, some 260 million children are still out of primary and secondary school.

The recent socio- political and economic changes in the world and within nations have brought about changes in educational goals and greater challenges for Social Studies. The schools are called not only to equip the learner with basic knowledge of Social Studies content but also with higher cognitive skills, such as problem solving and thinking skills that allow for self-development and continuous learning. To meet up with these challenges, there is a movement away from the behaviourist method of direct teaching such as in the lecture method, note copying and dictations, where the learner is given contents to memorize and regurgitate. Social Studies as a discipline continue to enjoy changes in educational objectives. Emphasis is now shifted from learning as acquisition of facts to learning as utilization of facts; from learning as memorization (from Geography and History texts), to learning as a process of discovering important relationships and principles inductively; from learning for learning's sake to learning as a way of inquiring and thinking according to the processes of the Social Sciences. This can only be achieved through the process of mastery learning strategy (Onibokun, 2019).

The development of Social Studies in secondary schools in Nigeria gained momentum from the year 1977 after the introduction of National Policy on Education popularly known as the 6-3-3-4 system. This rapid progress was caused by two major factors. The first was that the Universal Primary Education (UPE) introduced in 1976 made Social Studies the only social science subject to be taught in the primary schools. The second factor was that Social Studies was made a core subject for the junior secondary school. This has brought a lot of awareness to the students and the teachers on the significant roles of Social Studies especially as it affects the implementation of 6-3-3-4 system of education. In order to implement the national policy on education, government at all levels became more interested in the schooling process in terms of educational outcomes, learning activities, instructional resources, instructional strategies and evaluation procedures. In view of this, emphasis has been on the need to: make educational activities center on the learner for maximum self-development and self-fulfilment and Structure the educational system to develop the practice of self-learning (Federal Republic of Nigeria, FRN, 2014). The implication of these for classroom teachers is that, they should develop a teaching approach which encourages the learners to participate in the learning processes.

Despite the efforts of Government in restructuring the educational system to develop the practice of self-learning, the dominant approach to instruction in schools has been the expository type especially since the inception of western education in Nigeria in 1443. Other methods of instruction were later introduced into the learning processes. For instance, since 1960, curriculum planners have emphasized the inquiry approach by claiming that carrying out investigations is the most promising method by which students will master inquiry skills and become literate in Social Studies (Yager & Lutz, 2014). Even at that, it cannot be said that schools have done well in developing such skills in the learners. Quite a number of studies have been conducted to investigate the causes of students under achievement in Junior Secondary Social Studies, and the most

reoccurring factor in all is the inadequate teaching method used by Social Studies teachers. Consequently, learners' individual needs, preferences and interest cannot be met by most strategies utilized in the traditional, expository method of teaching.

These among others are the reasons the researcher is interested in trying out other method such as mastery learning strategy. If the objectives of Social Studies education are to be met, then the need to look for an alternative teaching paradigm in the form of an improved and effective teaching strategy that is result oriented becomes necessary. Social Studies as a school subject introduced by the Federal Government was to help students acquire basic social knowledge, positive attitudes, values and social skills needed to make the students functional and responsible citizens and contributing members of the society. It provides knowledge, skills and attitude that enable learners understand their physical and social environment in order to act or behave as responsible citizens. It prepares students to live in a global and culturally diverse world, as well as keep pace with rapid development in electronically and technologically changing world. It involves person with group and group with group. It is a study of man's relationship with his environment, how environment affects man and how man in turn influences his environment.

The teaching of Social Studies is therefore an activity that involves both the teacher and the learner. The purpose of teaching is to ensure that learning takes place. While learning involves a behavioural change in the learner, Social Studies teaching involve the transmission of the relevant body of knowledge, attitudes, manner, dispositions, skills and values that enable the individual to survive in a growing and dynamic society. Adeyemi (2017) defines teaching of Social Studies as a process of facilitating student learning through a proper management by the teacher of the inter-relationships among the students' interest, the content for learning and the methods and materials he or she intends to use in the teaching and learning of the content materials. It may involve giving instruction to somebody on knowledge, skills and attitudes with the intention that the person will be able to know the information or to do something or act in a particular way that is compatible with the instruction. We know that the person the instruction is given to may be a learner, a pupil, a student or a trainee. The means employed by the teacher to pass information to the learner would determine ultimately, if he or she is teaching. According to Lynn, Douglas and Gerald (2019), Mastery Learning is an instructional process that provides students with multiple opportunities to demonstrate content mastery.

Initial instruction is presented at a fast pace to engage all learners. Students who do not demonstrate mastery are given additional instruction specifically designed to correct their misunderstandings. Re-teaching should involve strategies that are different from the original instructional methods. For example, if the original material was presented in a lecture format with visuals, the re-teaching process might involve hands-on activities and cooperative learning strategies. A retest is later given to these students to allow them to demonstrate mastery. The teacher must be an effective communicator who thoroughly processes his information of Social Studies content and presents it in an orderly and comprehensive manner. There must be an established feedback mechanism so as to enable correction of lapses in instructional methods which can thus bring about improvement in the teaching and learning of Social Studies which may differs base on gender.

The ability level in terms of gender has to do with the characteristics modes of functioning that an individual show in perceptual and intellectual activities in a highly consistent and pervasive way. In relation to teaching and learning - theoretic, three levels of ability have been identified which are high, medium and low. On the other hand, medium ability level learners perform relatively better on learning activities involving social materials. For low ability level, the achievement is below average, reported that the causes of under - achievement are related to social disadvantage (low income, poor health, peer influence in educational choices, quality of teaching, the domination of the organization and curriculum of secondary school by public examinations and sex differences).

In view of the fact that gender of participants may have impact on the students' achievement, this study will also use gender as moderator variable. Gender differences in achievement have been examined for some time resulting in a substantial body of literature. The importance of examining instructional strategy in relation to gender is based primarily on the socio-cultural differences between girls and boys. Traditionally, girls in our society have been encouraged to conform, whereas boys are expected to be active and dominant risk-takers. Corroborating this view, acknowledge that most boys are provided with toys that enhance their visual- spatial ability such as trucks, Legos (toys consisting of plastic building blocks and other components) and model. Thus, social expectations and conformity pressures may create cultural blocks to girls. In a study discovered that gender composition has a significant relationship with students' achievement and that gender composition has a significant influence on secondary school students' achievement. Beside this, inconsistent findings have been discovered on gender differences and achievement. There is therefore the need to find out if gender has effect on students' achievements in Social Studies.

Statement of the Problem

The problems of student's poor achievement in Social Studies have been a major issue of concern and interest in the Nigerian educational sector. Despite concerted effort by stakeholders in improving students' achievement, there has been a persistent decline as reported by the chief examiners for five consecutive years. The level of pass remains at 42%, 46%, 45%, 47% and 49% in 2014, 2019, 2020, 2021 and 2022 respectively. This persistent decline in achievement of students has become worrisome not only to the researcher but to all those who are in the business of education and knows the value of Social Studies. This calls for collaborative effort among stakeholders with the aim of getting the reason for this failure in order to proffer lasting solution to the problem. Hence, the need for intervention is not only recognized but also acknowledged by all stakeholders. Quite a number of studies earlier cited provide enough evidence on the poor achievement of students in Social Studies. This problem has been approached from many angles by researchers.

The place of instructional methods employed by teachers has been acknowledged to be a major factor in student's achievement. In spite of the need for innovative approach to Social Studiesteaching, the expository instructional approach continues to dominate the teaching of Social Studiesin Nigerian schools. The approach emphasizes academic, intellectual and cognitive aspect of teaching Social Studies. This method to a large extent neglects human, cultural, social and affective dimensions of Social Studies. Consequently, learners individual needs, preferences and interest cannot be met by such strategies utilized in the traditional expository method of teaching. This has continued to attract criticisms and as a result, researchers have continued to stress the need for learner-centred methods, one of which is the Mastery Learning Models. Is this instructional approach not likely to enhance students' achievement in Social Studies?

Aim and Objectives of the Study

The aim of this study is investigatingthe effects of integrated Group-Based mastery learning model on junior secondary II students' achievement in Social Studiesin Jos south LGA. The specific objectives are to:

1. find out the meanachievement of student taught with integrated Group-Based mastery model and those taught with using traditional method.
2. find out the mean score difference between male and female taught using integrated group-based mastery model.
3. find out the mean score difference between high ability, average, and low ability levelstudent taught using integrated group-based mastery model

Hypotheses

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

1. There is no significant difference in the mean achievement of Social Studies students taught using the integrated Group-Based mastery learning models and those taught using the traditional method.
2. There is no significant difference in the achievement between Social Studies male and female students taught using the integrated Group-Based mastery learning model.
3. There is no significant difference in the achievement of Social Studies students exposed to mastery learning models by ability level.

Theoretical Framework

The theoretical framework of this study is based on Carroll's theory of individual differences. Carroll (1963) has suggested that school learning was related to the amount of time needed to learn what was being taught and the amount of time spent on instruction (Carroll, 1963). The implication of Carroll's model is that if "time spent" is the same for all students and all students receive the same kind of instruction, then differences in student achievement will primarily reflect differences in student's aptitude.

However, in 1964 Bloom proposed that rather than providing all students with the same amount of instruction time should differ, perhaps we should require that all or almost all students reach a certain level of achievement by allowing time to differ. That is, Bloom suggests that we give students as much time as necessary to bring them all to a reasonable level of learning. If some students appear to be in danger of not learning, then they should be given additional instruction until they do learn.

The theory of Carroll is relevant to this study because it takes care of individual differences in the teaching and learning of Social Studies. The theory helps to bridge the gap between the fast learner and the slow learner in the teaching and learning process.

Method and Procedures

The design adopted for this study is quasi-experimental non-equivalent group pre-test- post-test. This is because intact classes in the purposefully selected secondary schools were assigned to each group of experimental and control. Quasi-experimental research design was adopted because it may not be possible for the researcher to randomly sample the subject and assign them to groups without disrupting the academic programme and the time table of schools involved in the study. Hence the design was considered quite suitable for conducting the study.

The population of this study will comprise of Junior Secondary School (JS II) students of Government Secondary Schools in Jos South Local Government Area of Plateau state. According to Jos South Local Government Education Authority there are 1174 JSS 2 Students of 502 females and 672 males. A sample of 50 intact classes were used with 30 as experimental group and 20 as control group from two schools in Jos South, Plateau State.

The primary research instrument used for this study is "Social Studies Achievement Tests (SSAT)". Before the commencement of the treatment, both the experimental and the control groups are to administer Social Studies questions, which will make up forty (40) items to be raised by the researcher. Face and construct validity was established for the instrument. The reliability of the Social Studies Achievement test is determined using Kuder-Richardson's 20 procedures for establishing the internal consistency reliability which yielded a reliability coefficient of 0.87 hence reliable enough for the study.

The scores obtained from the pre-test and post-test was analyzed using t-test of independent samples to answer the research questions while the formulated null hypotheses will be tested using Analysis of Covariance (ANCOVA) at 0.05 level of significance using SPSS.

Results

Hypothesis Testing

Hypothesis One: There is no significant difference in the retention of Social Studies students taught using the integrated Group-Based mastery learning models and those taught using the traditional method.

Table 1: t-test of independent samples of students' retention of learning in Social Studies by mastery learning models and expository teaching method

Teacher Method	N	Mean	Std Deviation	t	Sig(.2 tailed)
Mastery Learning Strategy	30	65.90	11.46	6.55	.001
Traditional Lecture Method	38	47.39	9.35		

$\alpha = .05$

Table 1 showed a calculated t value of 6.55 and a p value .001 testing at an alpha level of .05. The p value is less than the alpha level. So, the null hypothesis which states that “there is no significant difference in the retention of learning of Social Studies students taught using the mastery learning models and those taught using the expository method” is not retained. Consequently there is a significant difference in the retention of learning of Social Studies students taught using the models of mastery learning and those taught using the expository method. Since the mean score of students using the models of mastery learning strategy (65.90) is greater than the mean of the expository method (47.39). Therefore, the students retained more of what learnt using the models of mastery is learning than the expository method.

Hypothesis Two: There is no significant difference in the achievement between Social Studies male and female students taught using the integrated Group-Based mastery learning model.

Table 2: t-test of independent samples between male and female students' achievement in post test

Sex	N	Mean	Std Deviation	t	Sig 2 tailed
Male	19	66.95	10.76	.609	.810
Female	11	66.00	9.35		

Table 2 showed a calculated t-value of .609 and p-value of .810. Testing at an alpha level of .05, the p value is greater than the alpha level. So, the null hypothesis which states that “there is no significant difference in the achievement of Social Studies between male and female students taught using the models of mastery learning is accepted.

Hypothesis Three: There is no significant difference in the achievement of Social Studies student exposed to mastery learning models by ability level.

Table 3: One-Way ANOVA of Learning Achievement of Students Exposed to Mastery Learning by Ability Levels

Groups	Sum of Square	Df	Mean Square	F	Sig
Between	41.901	2	20.951	.230	.790
Within	3192.657	35	91.219		
Total	3234.558	37			

$\alpha = .05$

Table 3 showed an F value of .230 and P value of .796. Testing at an alpha level of .05, the p value is greater than the alpha level. So, the null hypothesis which states that “there is no significant difference in the learning retention of Social Studies students taught using models of mastery learning by ability level is retained.

DISCUSSION

This study investigated the effects of integrated Group-Based Mastery Learning Model on Junior Secondary II Students' Achievement in Social Studies in Jos south LGA. The result of the study show that there is a significant effect of treatment on Social Studies students' achievement as those taught with integrated Group-Based of mastery learning model were better than those taught with the traditional expository method. This finding is in agreement with Adeyemi (2017) who opined that using mastery learning as a quality instruction brings the desired result. The results found that there was a clear-cut conclusion on the effectiveness of integrated models of mastery learning approach on students' achievement as those taught with mastery learning performed better in Social Studies compared with the conventional approach to learning.

One of the major findings of this study is that Social Studies students taught with mastery learning model retain more than those students taught with the expository method. Method is a major variable that boosts learning outcome. According to Onyabe and Prokupek (2010) method of instruction is a major variable that affects the students' performance in Social Studies. Iyamu (2016, 2018 and Ukadike (2015) who said that the expository teaching is a method of instruction in which the teacher does most of the talking and the students do the listening. And that in its broadened form it includes the fact that the teacher finds out most of the relevant piece of information on a topic and gives information to the students. Unlike the mastery learning models that emphasize learner approach to learning.

Chacko (2013) in her study used 73 Form three students and found that the models of mastery learning procedure of obtaining feedback through formative testing and applying corrective measure through instruction is effective in promoting cognitive achievement in Mathematics.

This study also revealed that the mean and standard deviation for students with low ability, 62.73 low ability, 6.25, for students with moderate ability as 68.64 and 10.52 and students with high attitude as 66.88 and 12.48 respectively was no significant difference in performance. This is in line with Arisi (2012) studies on cognitive style, ability and four methods of teaching Social Studies where there was no significant interaction between instructional method, cognitive style and school type but attributed it to the use of samples from the same environment which cause the students to develop comparative cognitive behavior in responding to learning task irrespective of the instructional method.

Conclusions

Based on the findings of the study, the following conclusions were made. Method of instruction is a major variable that affect students' achievement in Social Studies. An appropriate method of instruction would usually boost achievement. Mastering learning model is an effective learning model and more effective when enhanced with learning together or cooperative learning and assignment. This method is therefore one of the best ways to teach Social Studies at the junior secondary school. Among other reasons for this opinion is the fact that this method helps students not only to understand the concepts but also increase their creative skills of being able to understand the concepts but also increase their creative skills of being able to understanding through the social interaction which occurs in class. Student think and talk about their experiences, they suggest and try out new ideas. However, gender has no significant effect on students' achievement in Social Studies.

Recommendations

The following recommendations are deemed necessary:

1. Social Studies teachers should be encouraged through in-service training, seminars and other forms of training-on-the-job to employ mastery learning models. They are to enhance teaching through cooperative learning and regular assignments in order to increase the level of Social Studies learning outcome.
2. Social Studies Curriculum should be developed by experts, using the mastery learning model. The curriculum materials are to include activities that are needed for this strategy. Teachers of Social Studies at the JSS level should be encouraged to use instructional methods which will help to bridge the gap between learners.
3. Effort should be made by the government and other necessary policy makers to ensure that Social Studies teachers who lack the competence for mastery learning should be equipped with the necessary skills e.g Education and professional association to organize workshops, seminars and or conferences to train the serving teachers on this effective mastery learning strategy.
4. Teachers should be equipped with necessary skills as mentioned above to minimize the use of expository method. This study showed that it is the least effective method compared to the mastery learning models that was administered.

References

- Adeyemi, B. A. (2017): *Learning Social Studies through Mastery Approach Journal of Educational Research and Review* Vol.2(4) pp.60-63. Available online at 5/2/2010).
- Arisi, R.A. (2012). Effects of Instructional methods, cognitive style and sex on students' achievement in Social Studies. *Ph.D. Dissertation, Delta State University, Abraka*.
- Arisi, R.A. (2014). Effects of instructional methods, cognitive style and sex on students' achievement in Social Studies. In the Nigerian Teacher Today. *A Journal of Teacher Education*, 10 (2), 68-75.
- Chacko, I. (2013). The effectiveness of a mastery learning strategy in Mathematics. *Journal of Science Teachers' Association of Nigeria*. Vol. 21 (2).
- Federal Republic of Nigeria (2014): *National Policy on Education*. Lagos. NERDC.
- Iyamu, E.O.S. (2016). Social Studies teacher – supply in selected secondary schools in Edo State. *Unpublished paper*.
- Lynn, S.F., Douglas, F., Gerald, T. (2019). Effects mastery learning procedures on student achievement. University of Oregon. <http://en.wikipedia.org/wiki/masterylearning>. (Retrieved 2023).
- Onibokun, O. M. (2019): *Evaluation of Social Studies in Obemeata*, J. O. Ayodele, Araromi, M. A. (2019): *Evaluation in Africa in Hour of E. A. Yoloye, Stirling*, Hordon Publishers (Nig) Ltd. Ibadan, p.40.
- Ukadike, O. J. (2014): Effects of Learning Together and Peer Tutoring on Students' Achievements in Social Studies. *An Unpublished Ph.D. Thesis University of Benin, Benin City*.