

Effects of Mastery Learning on Students' Achievement and Retention in Social Studies

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Abstract

The researchers investigated the effects of mastering learning on students' achievement and retention in Social Studies in junior secondary schools (JSS) in Ikere Local Government Area, Ekiti State, Nigeria. The problem of student's poor performance and under achievement in Social Studies has been a major issue and there is an interest in Nigerian schools especially in terms of student's achievement and retention level. Two research questions were raised with two corresponding hypotheses to guide the study. A quasi- experimental design of non-equivalent control group was adopted. Two mixed secondary schools were purposely selected from Secondary Schools in Ikere Ekiti, Ekiti State out of which two in-tact classes were selected. One of the two classes was used as the experimental group, taught with an integrate group-based mastery learning model. There were 100 students in the two groups combined. The instrument used for data collection was two Social Studies Achievement Test (SSA1). The data collected were analyzed using ANOVA. The result of the study showed that there was a significant effect of treatment on Social Studies students' achievement based on gender and retention level. It was concluded that student's achievement level and retention will greatly increase if teachers apply the mastery learning model.

Keywords: Mastery learning, Gender, Retention, Achievement

Introduction

Teaching is an activity that involves both the teacher and the learners. The purpose of teaching is to ensure that learning takes place, in form of gradual change that takes place in learners based on series of instruction over time. The school has a vital role to play in training of the child to earn a gainful living for economic prosperity, social cohesion and political stability in a fast growing and transforming world. Education is often, regarded as one of the main instruments to develop the capacities of nations and to harness their vast resources for functional self-reliance and survival of humanity. Though history, it has provided the fundamental framework and vibrant foundations for human advancement of developing relevant knowledge, building creative skills and creative sound value systems that become enterprising and effective members of the society (Oyekan, 2000).

Kwong & Icooi (1990) reported that the main function of as school is to teach the students to think critically, analytically, to cooperate, communicate, compete, assume responsibility for their actions, to solve problems and continue learn through their working lives. The teaching of Social Studies is therefore an activity that involves both the teacher and 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 (2007) defines the teaching of Social Studies as a process of facilitating student learning through proper management by the teacher of the inter-relationships among the students' interest, the content for learning the methods materials he or she intends to use in the teaching and learning of the subject matter. 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. The recipient of the instruction 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 & Gerard (2009) Mastery Learning is an instructional process that provides students with multiple opportunities to demonstrate intent mastery. Initial instruction is presented at a first place to engage all learners and Students who do not demonstrate content 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.

Adepoju (2002) looked at mastery learning as an innovation in which various forms are designed towards making learners performing well in an academic task. In mastery learning, a pre-specified criterion level of performance is established which students must master in order to complete the instruction and move on. It typically includes frequent assessment of students' progress, provision of corrective instruction, emphasis on cues, participation, feedback and reinforcements. In fact, one of the widely used means of adapting instruction to the needs of diverse students is called mastery learning (Block & Anderson, 1975; Block & Burns, 1976 and Bloom, 1976). The basic idea behind mastery learning is to make sure that all or almost all students have learned a particular skill to a pre-established level of mastery before moving on to the next level.

However, the ability level in terms of gender has to do with the characteristics modes of functioning that an individual shows in perceptual and intellectual activities in a highly consistent and pervasive way (Block & Burns, 1973 and Thornell, 1977). In relation to teaching and learning-theoretic, three levels of ability have been identified which are high, medium and low. According to Grieve & David (1971), "high ability individuals are significantly better than medium or low learners in concept attainment tests". This means they have a greater ability to structure information and problem solving. On the other hand, medium ability level learners perform relatively better on learning activities involving social materials (Okubbre & Makamuna, 1972). For low ability level, the performance is below average, Mortimore (1982) 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).

Statement of the Study

The problems of students' poor performance and under-achievement in Social Studies have been the main issues of concern and interests in the Nigerian educational sector, the need for intervention is not only recognized but also acknowledged by all stakeholders. 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 an innovative approach to Social Studies teaching, the expository instructional approach continues to dominate the teaching of Social Studies in Nigerian schools as revealed in literature. The approach emphasizes the 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. As a result, researchers have continued to stress the need for learner-centered methods, one of which is the Mastery Learning Models. Is this instructional approach likely going to enhance students' achievement in Social Studies as well as their retention level?

Purpose of the Study

- i. To investigate if there is an ability difference on the effect of an integrated group-based mastery and learning model on learning retention of Social Studies.
- ii. To investigate if there is difference between gender and ability level on the effect of an integrated group-based mastery learning model in Social Studies achievement.

Research Hypotheses

The following hypotheses will be tested at 0.05 level of significance:

H₀1: There is no significant difference in the students' achievement and learning retention of students taught using the integrated group-based mastery learning model by ability level.

H₀2: There is no significant difference between gender and ability level on students achievement in Social Studies.

Methodology

This is a quasi-experimental of a non-equivalent control group design. This design was adopted because it was not possible to have complete randomization of subjects. Intact classes were used for the two groups, and the two existing groups were, administered treatment and post-tested. The population of this study comprised of all junior secondary school (JSS) students of government secondary schools in Ikere local Government Area of Ekiti State. The sample of this study was one hundred (100) junior secondary school students from two mixed secondary schools in-tact classes were used for the study. One research instrument was used for the study. This was pre-test and post-test (Social Studies achievement test). The treatment procedure which lasted eight weeks involved two instructional strategies, the integrated group-based mastery, learning model, and the traditional expository method. Equal numbers of JSS II classrooms from the two schools were selected for treatment. Before the commencement of treatment, students were subjected to an ability test as an intervening variable, i.e. it is possible that the effectiveness of the teaching method could be dependent on the ability of the students. The pre-test was used as a means of knowing the different ability of the students in order to know how individual student could be assisted in the process of teaching and learning. The statistic used for data analyses and to test hypotheses one and two were one way ANOVA for hypothesis one, and two way ANOVA for hypothesis two. The hypotheses were tested at 0.05 level of significance.

Results

H₀1: There is no significant difference in Social Studies achievement and learning retention of students taught using an integrated group-based mastery learning model by ability level.

Table 1: Descriptive of Learning Retention of Students Exposed to Mastery Learning Models by Ability Level $\alpha=0.05$

Ability	N	Mean	Std. Deviation
Low	8	62.25	8.86
Moderate	14	67.79	12.99
High	8	66.28	11,39

Table 1 shows the mean and standard deviation for students with low ability 62.25 and 8.86, for students with moderate ability as 67.79 and 12.99 and while students with high ability as 66.25 and 11.39 respectively.

Table 2: One Way ANOVA of Learning Retention of Students Exposed to Mastery Learning Models by Ability level

Source	Sum of square	df	Mean square	F	Sig
Between	782.238	2	391.119	1.13	334
Within	12112.524	35	346.072		
Total	12894.763	37			

Table 2 shows an F-value of 1.13 and P-value of 0.334. Testing at an alpha level of 0.05, the P-value is greater than the alpha level. So, the null hypothesis which states that there is no significant difference in the interaction effect between gender and ability level on student's learning outcome in Social Studies is retained.

H_0 : There is no significant different between gender and ability level on students learning outcome in Social Studies.

Table 3: Two-Way ANOVA of learning Outcome of Students Exposed to Mastery Learning by Ability Level

Source	Sum of square	df	Mean square	F	Sig
Sex	3.375	1	3.375	0.30	856
Ability	173.830	2	86.815	759	479
Sex Ability	57.481	2	28.41	5	780
Error	2745.333	24	114.397		
Total	2981.200	29			

Table 3 shows a F-value for the interaction of sex by ability as 0.251 and alpha- value 0.780. Testing at 0.05 alpha level, the p-value is greater than the alpha value. Therefore, the hypothesis states that there is no significant difference between gender ability level on students learning outcome in Social Studies retained.

Discussion

The result of the study shows that there is a significant effect of treatment on Social Studies students achievement as those taught with the integrated group-based mastery learning model were better in achievement than those taught with the traditional method.

The findings also revealed that the outstanding performance in Social Studies was not as a result of the difference in the ability between male and female students. This can be seen in the mean and standard deviation of students with low ability, 62.255 and 8.86, for students with moderate ability as 67.79 and 12.99 and while students with high ability as 66.25 and 11.39 respectively. This finding is in line with the findings from Arisi (2004) Studies on cognitive style, ability and four methods of teaching Social Studies" in which it was found that, there was no significant interaction between instructional methods, cognitive style and

school type but attributed it to the use of samples from the same environment which caused the students to develop comparative cognitive behaviour in responding to learning task irrespective of the instructional method.

Conclusion and Recommendations

Based on the findings of this study, the following conclusions were arrived at: that method of instruction is a major variable in determining students' achievement in Social Studies. Therefore, the mastery learning model is an effective learning model that enhances performance in Social Studies. The following recommendations were made in view of the foregoing findings from the study. Social Studies teachers should be encouraged through in-service training, seminars and other forms of the training-on-the-job to employ mastery learning models. Also, teachers should be equipped with necessary skills as mentioned above to minimize the use of the expository method in the teaching and learning of Social Studies.

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