

Effects of Guided Discovery Instructional Method on Secondary School Students' Achievement in Social Studies

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Abstract

The study sought to find out the effect of guided discovery instructional method on secondary school students' achievement in Social Studies. Two research questions and one null hypothesis were posed to guide the study and were tested at 0.05 level of significance. The study employed the pre-test, post-test control group design. Specially, the design of the study is non equivalent control group design. The area of the study was four selected public secondary schools in Ikwo Local Government Area of Ebonyi State. Simple random sampling technique was used to select four (4) public secondary schools that have existing intact classes with the sample size of one hundred and fifty-one (151) junior secondary school II (JSS II) students who made up the population of the study in Ikwo Local Government Area. The instrument used for data collection was Social Studies Achievement Test (SOSAT) constructed by the researchers with initially thirty-five (35) multiple-choice items with option A-D. The items of the instrument were validated by two experts from Social Studies Education and one other specialist in Measurement and Evaluation in Ebonyi State University, Abakaliki for relevance, clarity, proper wording and adequacy of items in addressing the objectives of the study and were further treated to item analysis of difficulty index and discrimination power. After item analysis, six (6) out of the thirty-five (35) items were dropped, leaving behind twenty-nine (29) question items. The instrument with twenty-nine (29) question items were treated to determination of reliability using thirty-five (35) junior secondary school II (JSS II) students selected from Abakaliki High School in Ebonyi Local Government Area of Ebonyi State who were not part of respondents and were considered equivalent to the targeted population and Kinder Richardson 20 (KR-20) statistics. By this analysis, a reliability coefficient of 0.98 was obtained which showed a high internal consistency; thereby making the instrument suitable for use for the study. The data collected were analyzed using mean and standard deviation for all research questions while analysis of covariance (ANCOVA) was used to test the null hypotheses at an alpha 0.05 level of significance. The findings of the study revealed that students in experimental group performed better than those in the control group, (ii) female students used for experimental group obtained higher mean score (73.053) than their male counterparts who had mean score (71.218), and (iii) there was significant interaction effects between methods and location on the mean achievement of students in Social Studies since the value of F-sig (0.134) is less than the value of F-cal (2.261). Based on the findings, some recommendations were made to improve the achievement level of students in Social Studies in schools.

Keywords: Social Studies, Guided discovery and Achievement

INTRODUCTION

Social Studies is an important subject that occupies a prominent position in the Nigerian school curriculum. The fact that Social Studies enjoys a prominent position in the Nigerian school curricular implies that it is perceived as a very important subject worthy of being studied by all students. This perceived importance was derived from the potentials of the Social Studies to achieving certain desirable goals for general education in Nigeria. It is on this note that Federal Republic of Nigeria (FRN) in her national policy on education recognized the subject (Social Studies) as one of the compulsory subjects in pre-primary, primary, post primary institution in Nigeria. It is also studied in some higher institutions of learning (Federal Republic of Nigeria (FRN), 2004).

Despite the above recognition, Onyabe in Oyibe and Oketa (2012) observed that Social Studies has been part of educational curriculum in the United States of America (USA) for many years before it was introduced into Nigeria educational curriculum in early 60s yet its philosophy, scope, content and methods of teaching have remained vague both to scholars and school teachers. The vagueness of Social Studies, according to Bozimo and Ikwumelu (2008: 136) "does not end with the school teachers and scholars; parents, educational administrators and even the government seems to be confused either to categorize the subject as a discipline in Social Sciences or in Education". This conflict observed in categorizing Social Studies also follows the scholarly conceptualization of the subject.

At present, there is no universally accepted definition of Social Studies but there are definitions that are acceptable at various places and occasions and for different purposes as far as they focused on the interrelationship between man and his environment. For example, Jarolimek (1977:4) defined Social Studies as a discipline that concerns itself with:

Learning about people, how and where they live, how they form and structure

societies, how they govern themselves and provide for their materials and psychological needs, how and why they love and hate each other, how they use and misuse the resources of the planet that is their home.

This shows that Social Studies is not only the study of man and his environment which may either be physical or social but also study the inter-play between man and his fellow man, man and his environment. This harmonization brings about conducive atmosphere suitable for development of values, attitudes and acquisition of knowledge and skills for man-environmental improvement.

Still emphasizing on the man environment interrelationship, Ololobou in Okoro (2001) maintained that Social Studies is “an organized, integrated study of man and his environment, both physical and social, emphasizing on cognition, functional skills, and desirable attitudes and actions for the purpose of creating an effective citizenry”. Okam (2002:77) seems to adopt a similar line of thought when he defined Social studies as:

an inter-disciplinary field in which man learns about the problems of survival in his environment. That Social studies is the study of how man influences and is in turn influenced by his physical, social, political, religious, economic, cultural, psychological, scientific and technological environment.

Emphasizing the relationship between Social Studies and ecosystem, Orisa (2011:113) maintained that, Social Studies is the study of human interaction and interactive behaviours, values, attitudes and problems in relation to human ecology system. In these definitions, man is placed at the center while his psychological, physical, political and socio-economic needs are at the periphery.

Social Studies education has also been presented as an instrument for societal values transfer. This probably informed Kissock’s (1981:3) view, that “Social Studies is a programme of study which a society uses to instill in the students the knowledge, skills, attitudes and actions it considers important concerning the relationship human beings have with each other, the world and themselves”. This agreed with the view held by Lawton and Dufour in Ikwumelu (2003: 34). According to them, “Social Studies is a course that is concerned with man as a social being and with the way he organizes cultural, economic, political, historical and geographical aspects of society”. In a view closely to value transformation, Social Studies according to Edozie (2001:39) is;

a dynamic, systematic and integrated discipline for generating knowledge, attitudes, skills and behaviours necessary for dealing with contemporary life issues, for understanding man and the factors which influence his relationship with himself in particular and his society generally in a sustainable manner.

As a discipline of study in Nigeria educational system, Social Studies is presented by educators as a preparation ground for citizenship education, education for cultural integration and education for living. This position has influenced the National Council for Social Studies (NCSS) to adopt its official definition of the subject, “the integrated study of social sciences and humanities to promote civic competence and help young people to develop the ability to make informed and reasoned decisions as a citizens of a culturally, diverse, democratic society in an interdependent world”, (NCSS, 1992:92). Following the above discourse, one can observe the disagreement between Social Studies education on what the subject should be. It likely that the same amount of disagreement follows the views about the scope, objectives and selection of instructional methods for use in teaching the Social Studies”. Awe in Ikwumelu and Oyibe (2011:38) thus maintained that,

...Social Studies is a discipline if properly programmed and effectively taught should help to solve social problems that are facing developing countries like ours (Nigeria) where the old norms are fast losing their grips and without any effective substitute to replace them.

This implies that if teachers in classroom effectively select and utilize appropriate instructional methods in teaching Social Studies curriculum contents, it will instill in the students inquiring spirit that will bring about development of values in their own learning. No wonder, Mbakwem (2005:163) also held that Social Studies focused on

skill acquisition and development of values, effective values and learning outcome which demands that the subject should be properly taught so as to equip the students with such skills as locating information from print-media, textbooks, newspapers, libraries, as well as from resource persons and community resources.

In the same vein, Ikwumelu (2002) held that Social Studies gives an opportunity for important social and moral issues such as attitudes to the destitute, poverty, racialism and different types of government, cruelty to animals and children, brutality and injustice to be introduced into curriculum. This implies that Social Studies education exposes students not only to social issues but also to issues that are value-laden. The Social Studies curriculum for junior secondary school published by Federal Ministry of Education (FME) (1988), recommended inquiry

and role playing related methods to be used in the teaching and learning of the subject that will give that learners the opportunities to fully participate in the instructional processes.

Owing to the Federal Ministry of Education recommendation, Oyibe and Mbang (2013) maintained that for the purpose of actualizing instructional and programme objectives of Social Studies, it is well known fact that there is no one method of teaching of Social Studies is ideal all the time. Therefore, Social Studies teachers need to examine all the methods critically and experiment with them with a view to select the most appropriate method (s) for use in classroom interaction since the method (s) to be used in teaching and learning of Social Studies depends wholly on the subject matter and levels of content development of the students.

Unfortunately, as observed by Ikwumelu (2002), social awareness and understanding are still not being developed students still consider either to take for granted what their teachers offer or to reject it out of hand, probably as a result of application of inappropriate instructional methods. No wonder Mbakwem (2005:261) maintained that whether a subject is effective or not depends on the nature and quality of the learning experience that are associated with it. This implies that it is not only the content that determines effectiveness of a subject but also the quality of learning experiences which in some cases are dependent upon teachers' effective application of instructional methods that will enhance active participation of students in the classroom. It is based on the above view that Ikwumelu and Oyibe (2011) advocated for the application of guided discovery instructional method in teaching and learning of Social Studies.

Teaching and learning involve helping the learners to discover facts or answers to a given problem. Often time, learners depend on their teachers to provide all the answers they need. This practice is not always helpful to the learner. Guided discovery help them to develop thinking and decision making abilities. Nelson in Offorma (1994) stated that discovery by anybody is a matter of rearrangement or transforming evidence so reassembled to additional new insight. Guided discovery method is one of the teaching methods that employ exploration, manipulation and experimentation to find new ideas. The method involves a heuristic approach which demands that you create the problem and allow the students to find answers for themselves. Onasanya (2008) described guided discovery instructional method as a teaching tool that can complement the teacher by taking over most of the routine jobs of the teacher.

Jonassen (1993) emphasized that the role of teacher in the guided discovery method is to guide the students by asking questions that will lead them to develop their own conclusions on the subject matter. In guided discovery, the teacher avoids direct instruction and attempt to lead the students through questions and activities to discover, discuss, appreciate discovery in the teaching and learning of Social Studies in schools include:

- Learners are actively involved
- Stimulate the learning environment
- Makes learning activates to be interactive and students-centered
- Teacher facilitates a process of learning in which students are encouraged to be responsible and autonomous

In addition to the above line of thought, Enem (2003) is of the view that guided discovery is a process of learning in which students interact with and are guided by a teacher through which a course of study aimed at achieving certain instructional goals is completed. The use of guided discovery instructional method in teaching of Social Studies in schools will help students to be actively involved and work independently. Therefore, guided discovery instructional method facilitates Social Studies instruction without relegating the moderating functions of the teachers. Thus, the use of guided discovery instructional method in teaching Social Studies in junior secondary schools would help the students to think in new ways and improve their intellectual power to visualize data in Social Studies and help the students to gasp abstract concepts.

Commenting on the importance of guided discovery Ikwumelu and Oyibe (2011: 39) stated that guided discovery when used in the teaching of Social Studies improves students' ability to construct knowledge, assume responsibility for their own learning and to realize that learning is a personal experience that requires active and dedicated participation. This therefore suggests that, students should now be taught how to learn, how to search for appropriate information, arrange the information got according to their needs, creates knowledge from it, and report the information in a way that has individual and collective meaning. Oyibe (2011) while appreciating the usefulness of guided discovery instructional method in the teaching of Social Studies suggests that one of the ways of broadening students' understanding of Social Studies concepts, and to strengthen their abilities to apply social theory, in an instructional situation, is to cast them in the role of a teacher. This can be done in the classroom by using a simulation model of the society to play the part of the real world. He went further to say that such a model should incorporate a number of instructional variables that can be used to generate a time series of instruction in the model.

Research Questions

1. What is the effect of guided discovery method on students' mean achievement in Social Studies?

2. What is the effect of guided discovery instructional method on the mean achievement of male and female students in Social Studies?

Hypothesis

Ho₁: There were no significant interaction effects of instructional methods use and location on the mean achievement of students in Social Studies.

Methodology

This study adopted quasi-experimental research design, involving a pre-test and post-test and was carried out in four selected secondary schools in Ikwo Local Government Area of Ebonyi State. In making up population of this study, simple random sampling technique was used to select four (4) public secondary schools that have existing intact classes with the sample size of one hundred and fifty-one (151) junior secondary school II (JSS II) students in Ikwo Local Government Area. Out of these four schools, two schools were assigned to the experimental group while the remaining two schools were assigned to the control group using simple random sampling technique by balloting. In addition, out of one hundred and fifty-one (151) students, eighty-four (84) students were in two schools used for experimental group who were taught Social studies using guided discovery instructional method and sixty-seven (67) students in the remaining in the other two schools used for control group were taught using conventional instructional method. The instrument used for data collection was Social Studies Achievement Test (SOSAT) constructed by the researchers with initially thirty-five (35) multiple-choice items with option A-D. The items of the instrument were validated by two experts from Social Studies Education and one other specialist in Measurement and Evaluation in Ebonyi State University, Abakaliki for relevance, clarity, proper wording and adequacy of items in addressing the objectives of the study and were further treated to item analysis of difficulty index and discrimination power. After item analysis, six (6) out of the thirty-five (35) items were dropped, leaving behind twenty-nine (29) question items. The instrument with twenty-nine (29) question items were treated to determination of reliability using thirty-five (35) junior secondary school II (JSS II) students selected from Abakaliki High School in Ebonyi Local Government Area of Ebonyi State who were not part of respondents and were considered equivalent to the targeted population and Kinder Richardson 20 (KR-20) statistics.

By this analysis, a reliability coefficient of 0.98 was obtained which showed a high internal consistency; thereby making the instrument suitable for use for the study. In order to extraneous variables, Social Studies teachers of the four secondary schools were used as the research assistants and a pre-experimental training programme that lasted for two weeks was organized for the teachers of the experimental group while the teachers for the control group were not trained since they were already familiar with conventional method. The teachers were exposed to various procedures and steps involved in the instructional packages and the packages with instructional materials were distributed to both the teachers of experimental group and only lesson plan was giving to teachers of the control group. Following the procedure of the experiment that lasted six weeks, at the beginning, Social Studies teachers of the four secondary schools who were the research assistants administered pre-test to the students and at the end post test were administered and data were collected by the teachers which were handed over to the researcher. The data collected were analyzed using mean and standard deviation for all research questions while analysis of covariance (ANCOVA) was used to test the null hypotheses at an alpha 0.05 level of significance.

Results and Discussion

Research Question 1: What is the effect of guided discovery method on students' mean achievement in Social Studies? Data collected from Social Studies Achievement Test (SOSAT) were used to answer the research question and mean scores obtained from pre-test and posttest were statistically adjusted to take care of the group difference. Summary of data analysis were presented in table 1.

Table 1: Effect of guided discovery instructional method on students' mean achievement in Social Studies

Methods	Mean	SD	Cases
Guided discovery method	72.144	10.505	84
Conventional method	69.709	13.347	67

The results of data analysis presented in table 1 above revealed that guided discovery instructional method is better than the conventional method in enhancing secondary school students' achievement in Social Studies. From the results presented in table 1, it was observed that the experimental group (guided discovery) obtained a high mean score of 72.144 and standard deviation of 10.505 against the control group (conventional method) that obtained low mean score of 69.709 and standard deviation of 13.347. This implies that application of guided discovery instructional method enhanced students' achievement in Social Studies more than the use of conventional method. The finding is in line with the Maduabum (1995) who used the guided discovery method in the learning of science. From the study guided discovery method proved to be more effective in stimulating the interest of the learners, and offers the learners a measure of active participation. Supporting the finding in

table 1, NTI (2008) asserted that the guided discovery helps to develop in the learners thinking and decision making abilities.

Research Question 2: What is the effect of guided discovery instructional method on the mean achievement of male and female secondary school students in Social Studies? The mean scores of male and female students taught Social Studies using self-directed instructional method for pretest and posttest for the experimental group (guided discovery) were used to answer the research question. Summary of results of data analysis were presented in table 2.

Table 2: Effect of guided discovery instructional method on the mean Achievement of male and female secondary school students in Social Studies

Gender	Mean	SD	Cases
Male	71.218	9.575	59
Female	73.053	11.357	92

The results of data analysis presented in table 2 above revealed that guided discovery instructional method seemed to have much differential effect on female students. This is because female students had a mean score of 73.053 and a standard deviation score of 11.357 while the male students had a mean score of 71.218 and a standard deviation score of 9.575. This implies that female students perform better than the male students in Social Studies when guided discovery method is used in the classroom. The finding of this study is contrary to the finding of Dagoli (1999) who observed, that male students perform better than female counterparts because females have limited experiences because they are raised in a much more restricted environment than males and are for the most part discouraged at the most important phase of intellectual exploration. Females according to him are often raised in a more restrictive manner thereby denying them enough opportunity for exploration which contributes to mathematical reasoning. On the other hand, the findings tend to agree with the findings of Benwari (2007) who observed that female students were believed to perform better in languages and arts while male perform better in mathematics and science.

Testing of the Null Hypothesis

Ho₁: There were no significant interaction effects of instructional methods and location on the mean achievement of students in Social Studies.

Table 3: Analysis of Co-variance for students' achievement based on methods, gender and location

Source of Variation	Sum of Square	Df	Mean of Square	F	Sig of F
Covariates	15678.881	1	15678.881	321.486	.000
Pretest	15678.881	1	15678.881	321.486	.000
Main Effects	3274.702	2	1091.567	22.382	.000
Method	2029.109	1	2029.109	41.606	.000
Location	910.937	1	910.937	18.678	.000
2-way Interactions	318.261	2	106.087	2.175	.092
Method Location	110.271	1	110.271	2.261	.134
Explained	19271.844	4	2753.121	56.451	.000
Residual	9558.916	146	48.770		
Total	28830.760	150	142.023		

Significant at P <0.05

In the ANCOVA table, the test of instructional methods and location as demanded by the null hypothesis 1, the summary of results as presented in table 3 shows that the value of F (2.261) is greater than the value of F-sig (0.134) at 0.05. This indicated that the null hypothesis 5 was rejected on the ground that the value of F-cal (2.261) is greater than the value of F-sig (0.134) at 0.05 alpha level of significance. Therefore, there were significant interaction effects of instructional methods and location on the mean achievement of secondary school students in Social Studies in Ikwo Local Government Area of Ebonyi State. The finding is in line with the observation of Ikwumelu and Oyibe (2011) which observed that effective utilization of instructional method (s) in teaching and learning of Social Studies depends on the location of school. According to them, location of school is one of the determining factors considered for selection and utilization of instructional methods in teaching and learning of Social Studies. They added that some instructional methods required the availability of electricity and some required other commercial instructional aides for their application but if the school is located in rural area where accessibility of these materials are impossible, application of such method (s) will also be impossible.

Conclusion

The findings of the study revealed that students taught Social Studies using guided discovery instructional method performed better than those taught Social studies using conventional instructional method.

The study also proved that female students in both experimental and control groups performed better compared to the performance of male students in Social Studies classroom instruction. Finally, the study revealed that there were significant interaction effects of instructional methods and location on the mean achievement of secondary school students in Social Studies. It is the researchers opinion that if Social Studies teachers in their respective schools apply guided discovery and other inquiry related instructional methods in teaching and learning of the subject, students' achievement will drastically improve.

Recommendations

Based on the findings of the study reseracher made the following recommendations:

1. Seminars and workshops should be organized to enlighten economics teachers on the use of guided discovery method.
2. Governmental bodies and professional associations whose duty is to design and revise secondary school curriculum, should include and emphasize the use of guided discovery method in the teaching/learning of economics in schools

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