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The Comparative Effects of Simulation Games and Brainstorming Instructional Strategies on Junior Secondary School Students' Achievement in Social Studies in Nigeria

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Abstract

The study investigated the comparative effects of simulation games and brainstorming instructional strategies on Junior Secondary School Students' achievement in Social Studies in Nigeria. The study adopted a quasi-experimental design (3 x 2 non-randomized pre-test, post-test control group) comprising three groups made up of two experimental groups and one control. Simple random sampling was employed in selecting 240 students from six selected schools comprising two arms of JSS 2. Four instruments namely: "Social Studies Achievement Test" (SSAT), "Operational Guide for Simulation Games" (OGSG), "Operational Guide on Brainstorming" (OGB) and "Operational Guide for Teacher Exposition" (OGTE) were used with reliability coefficients of 0.84, 0.76, 0.81 and 0.78 respectively. Three

research hypotheses were generated and tested. Data analysis was done using mean, standard deviation, and Analysis of Covariance (ANCOVA). Results revealed that there was a significant main effect of the treatment on students' achievement in Social Studies ($F_{(2,233)}$ = 159.321; $P < 0.05$). Findings also indicated that there was a significant main effect of gender on students' achievement in Social Studies. ($F_{(1,233)}$ = 20.687; $P < 0.05$) and finally, results showed that there was significant interaction effect of treatment and gender on students' achievement in Social Studies ($F_{(2.233)}$ = 17.644; $P < 0.05$). Based on the findings of the study, recommendations were made.

Key words: Simulation games, brainstorming, instructional strategies, students' achievement, Social Studies

Introduction

Social Studies is one of the compulsory subjects studied in junior secondary schools in Nigeria. The subject according to Udoh (1993) and Mansaray (1996) is a discipline that can be used in solving problems of relationship and interaction in man's dynamic environment. Social Studies must be centered on innovative methods that aim at seeking the truth which include problem detecting, problem solving, learning by experimenting and discovery learning. Of great concern to the investigators is that most Social Studies teachers still rely mostly on the lecture method for imparting information. In the lecture method, the teacher according to Ajimoko (1975), Fabusuyi (1981), Ogunsanya (1984), Iyewarun (1989), Akinlaye, Mansaray and Ajiboye (1996), Akinlaye, Bolarin, Olaniyonu & Ayodele (1997) and Ogundare (2000) simply becomes the expositor and drill master while the learner remains the listener and a storehouse of facts that can be retrieved when a student hears his name called by the teacher.

The problem of students' under–achievement in Social Studies has been a much discussed educational issue since the early 80's when it became a compulsory subject in Nigeria (Adaralegbe 1980, Dubey and Barth (1980), Dubey & Onyabe (1980), Adedoyin (1981), Akinlaye (1981), Adekeye (1982), Orimoloye (1984), Lemlech (1984, 1990), Mansaray (1987), Iyewarun (1988), Mansaray (1991) and Akinlaye (1997). Such discussions have consistently centred round instructional strategies used in teaching the subject. When similar situations of under-achievement were experienced in Mathematics and the Sciences in Nigeria, new instructional methods were employed such as: mastery learning, peer tutoring, computer-assisted

instruction, simulation games and brainstorming. Findings revealed that simulation games and brainstorming have been of tremendous effect (Wood, Mento and Locke (1987), Adeniran (1994), Paulus, Larey and Ortega (1995), Adelakun (1997), McGlynn, McGurk, Effland and Johll (2004), Valacich, Jung and Looney (2006) and Adewale (2008).

However, these methods are alien in Nigerian Social Studies classrooms. Before such techniques can therefore be recommended or employed in the classroom, there is the need for informed data-based decision borne out of empirical studies such as the present one. Consequently, this study was carried out to examine the comparative effects of Simulation Games and Brainstorming Techniques on secondary school students' achievement in Social Studies in Nigeria. The Social Studies content areas of focus (areas that were being studied in the respective schools as stipulated in the curriculum at the time this study was carried out) include: Leadership and Followership, Science and Technology and Transport and Communication.

Literature Consideration
Conventional Teaching Method
According to Salawu (1999), the method of teaching can be regarded or defined as the vehicle through which a message is delivered. The conventional method of teaching can also be regarded as the hitherto existing traditional method of instruction in the normal classroom setting. There exist several methods of such conventional methods of instruction which have permeated our educational system over the years. Among such conventional methods of instruction are lecture method, Montessori method, dramatization method, inquiry method, project and field trip. Among the conventional methods of instruction, no one method could be said to be most appropriate. Rather, classroom experience shows that in most cases, two or more teaching methods are combined by teachers in classroom practice.

Simulation Games in Teaching and Learning
According to Wikipedia (2008), a game is a structured or semi-structured activity, usually undertaken for enjoyment and sometimes also used as an educational tool. Games are generally distinct from work, which is usually carried out for remuneration; and from art, which is more concerned with the expression of ideas.

Saunders and Gaston (1996) state that simulation games are popular techniques used by many educational developers and technologists in subject areas such as Business, Management, Statistics, International Relations,

Health Studies, Social Sciences and Science Education. Magney (1990) cites three basic rational methods for designing and developing simulation games. They are cognitive, motivational and attitudinal. In the cognitive dimension, he highlights its benefits which include: gains in factual learning, improved decision making skills and better understanding of general principles. In the attitudinal dimension, the benefits include: more positive attitude towards the subject matter and the teacher. Also, in the motivational dimension, the benefits include: increased level of interest in learning and increased enthusiasm towards learning.

Pulos and Sneider (1994) and the Society for the Advancement of Games and Simulation (SAGS) describe simulation games as an enjoyable and competitive social activity with goals, rules and educational objectives. Simulation Games generally attempt to reveal certain basic structures in the environment by simplifying them so that attention can be paid to them. Simulation games also refer to board games which are sold in the market or those different types of games prepared by teachers for classroom use. These games are usually based on the social, economic, political or other aspects of life of the community. A game might be a high level exercise carried out by students such as the use of toys. Examples of games include: Monopoly, Ludo, Snakes and Ladders, "Ayo" or even jigsaws. Such games essentially try to lay emphasis on processes and relationships. Not only do such games allow students to discuss and take practical decisions, they also facilitate the development of the imagination. Students usually find them very stimulating and motivating.

The purpose of simulation game is not for winning but for developing the spirit of the game, that is the spirit of tolerance, planning and give and take. There is now a growing variety of board games which cover a large spectrum of the Social Studies curriculum. Some of them deal with military and political conflicts. Other games deal with economic realities such as career patterns, life in the rural areas, and election. The use of simulation games in teaching-learning situation is due to the fact that simulation games provide fascinating challenges to learners and add interest, activity and novelty to the lesson (Anikweze, 1992). The use of games should help students to achieve better in Social Studies considering its attributes and the nature of Social Studies.

Moreover, the use of simulation games can be tailored to suit the interest of children and adults respectively (Hyman, 1968). In spite of these attributes,

Butter Markulis and Strang (1988) are of the view that only few studies have focused on the evaluation of educational effectiveness of games. Other studies include those of Randel et al (1992) which provide a review of sixty-eight other studies covering subjects like Social Sciences, Mathematics, Language Arts and Science. These imply that the use of simulation games can facilitate teaching and learning of school subjects particularly those whose objectives can be clearly stated. Social Studies belongs to such a group of subjects. Ernest (1986), Randel et al (1992), and Saunders and Gaston (1996), however, acknowledge that it is still pre-mature to strongly recommend a wide spread use of simulation games in teaching. Instead, they advocate for more studies that will assess the efficacy of using simulation games in teaching. This view supports the opinion of Pulos and Sneider (1994) that only a little is known about how simulation games can bring about effectiveness in learning.

Brainstorming as a Technique of Teaching
   ❖ Akinboye (2003) defines brainstorming as a group creativity forum for general ideas. According to Olagunju & Akinboye (1990), brainstorming was developed by Alex Osborn to produce ideas without inhibition.

Brainstorming technique involves oral and pre-writing exercises for helping the learner and for expressing ideas by the teacher. It is a technique that is used under the discussion method.

Eble (1976) refers to the technique as a teaching technique which emphasizes participation, dialogue and two-way communication. He states further that it is the one in which the instructor and a group of students consider a topic, issue or problem and exchange information, experiences, ideas, opinions, reactions, and conclusions with one another. Goldman (1965), Owolabi and Akinboye (1988) encourage the use of brainstorming technique by the teacher to ensure that some misconceived ideas are re-arranged. According to Vhovhen (1978) brainstorming technique involves the asking of carefully framed questions aimed at teaching students to find out facts for themselves and do critical thinking.

The major purpose of brainstorming as a teaching strategy is to foster and enhance communication skill, help to promote thinking and decision-making skill as well as foster different viewpoints and opinions. It may equally be used in all key areas of learning. However, the major limitation is that it is generally not suitable for younger levels because of the level of reasoning

required in order for it to work. The teacher must equally be able to guide and give aid as necessary considering the class environment as such considerations often determine the outcomes. In brainstorming techniques, the instructor carefully plans the lesson to reach the desired learning outcomes. The group interacts in response to questions, and the instructor refrains from entering the discussion as an active participant. Students are encouraged to learn about the subject by actively sharing information, experiences, and opinions. The flow of communication is a transaction among all the students rather than recitation and response between individual students and the instructor.

Available research evidence also supports the general effectiveness of brainstorming techniques compared with the traditional lecture method. Brainstorming elicits higher levels of reflective thinking and creative problem solving, including synthesis, application and evaluation. There is also evidence that information learned through active discussion is generally retained better than material learned through lecture. Moreover, students often prefer to participate in discussion rather than to be passive learners in a lecture (McKeachie, 1978). Even though, studies, written documents and observations from experts attest to the fact that the technique is either being consciously or unconsciously used in classroom setting, it is obvious that it needs to be empirically tested to prove its validity, reliability and effectiveness. Hence, the study becomes germane to current issues in Social Studies in Nigeria and probably beyond.

Gender and Students' Achievement
Gender differences in achievement have been examined for some time resulting in a substantial body of literature (Jack and Johannes, 2001). As observed by Ogunkola (1997), girls tend to perform better than boys in reading and verbal skills, while the reverse is the case in manipulative and physical productive tasks. Fabunmi (2004) in a study discovered that gender composition has a significant relationship with students' academic performance and that gender composition has a significant influence on secondary school students' academic performance.

Statement of the Problem
Performance in Social Studies in junior secondary schools in Nigeria has not been found to be encouraging (Adaralegbe (1980), Mansaray (1992) and Adeyemi (2008)). Research has shown that simulation games and brainstorming instructional techniques have positively impacted on students'

achievement in Mathematics and Sciences (Adeniran (1994), Adelakun (1997), Akinyemi (1997) and Adewale (2008)). It is not known if the same success will be recorded in Social Studies in junior secondary schools where there are relatively younger children. It is also unclear which of the two techniques would be more effective in influencing students' performance in Social Studies at this level. Consequently, this study seeks to examine the comparative effects of simulation games and brainstorming instructional strategies in the Social Studies class.

Hypotheses
In line with the statement of the problem, the following research hypotheses were formulated and tested:

Ho_1 There is no significant main effect of the treatment on students' achievement in Social Studies.

Ho_2 There is no significant main effect of gender on students' achievement in Social Studies.

Ho_3 There is no significant interaction effect of treatment and gender on students' achievement in Social Studies.

Methodology
The study adopted a quasi-experimental design comprising three groups made up of two experimental groups and one control. One of the two experimental groups was exposed to simulation games, while the other was exposed to brainstorming. The control group was exposed to teacher exposition. From the 30 Local Government Areas (LGAs) in Osun state, three LGAs were randomly selected. Two arms of JSS2 from the six schools comprising 40 students in each arm were randomly assigned to the experimental and control groups. In all, 240 students constituted the sample for the study. Four instruments comprising one objective test and three instructional guides were used for the study. The first instrument titled "Social Studies Achievement Test" (SSAT) consists of 50 multiple choice items based on JSS 2 Social Studies syllabus on three content areas namely: leadership and followership, science and technology and transport and communication. The second instrument titled "Operational Guide for Simulation Games" (OGSG) is an instructional guide on the use of simulation games. It consists of rules of the simulation games, steps to be followed, scoring pattern and the instructional strategies involved. The third instrument titled "Operational Guide on Brainstorming" (OGB) is also an

instructional guide on the use of brainstorming. It consists of procedures involved in promoting learning among the students in the classroom setting with the prime purpose of enhancing higher order thinking and learning among students. The fourth instrument "Operational Guide for Teacher Exposition" (OGTE) is an instructional guide on the use of the conventional method of instruction. It consists of four major procedural steps; preamble, exposition, remediation and summary. However, all the instruments were validated before use with reliability coefficients of 0.84, 0.76, 0.81 and 0.78 respectively. SSAT was administered on the respondents as pre-test and post-test. The study lasted for a period of four weeks with the involvement of three research assistants that were properly trained in the use of the instruments. Data were analysed using mean, standard deviation and Analysis of Covariance (ANCOVA) statistical tools. The level of significance adopted is 0.05 alpha.

Results and Findings

Hypothesis 1

There is no significant main effect of the treatment on students' achievement in Social Studies.

The data in table 1 shows the brief summary of the variables of interest and the inter-relationship among them and the level of significance of the identified variables.

The Analysis of Covariance (ANCOVA) Summary in Table 1 shows that there is a significant main effect of the treatment on students' achievement in Social Studies ($F_{(2.233)} = 159.321$; $P < 0.05$). The study further revealed that students exposed to simulation games had the highest mean in pre-test and post-test (16.60+26.60 = 43.2) followed by brainstorming group, (13.80 + 23.80 = 37.6) and lastly control group, (13.60 + 14.11 = 27.7) This result implies that the experimental groups performed significantly better than the control group in the post-test and that their performance also improved significantly after the treatment. This shows that simulation games as an instructional strategy is the best, followed by brainstorming and lastly conventional instructional strategy. This implies that simulation games as well as brainstorming instructional strategies groups provided favourable effects on the experimental groups and the effect led to improvement in students' achievement in Social Studies.

The pre-test and post-test scores are presented in table 2 and it is glaring that the mean scores in the pre-test and post-test in simulation games are a little higher than those of brainstorming, though both have the same mean gain achievement. Also, the mean scores in the pre-test and post-test in brainstorming are a bit higher than those in the control. In other words, the simulation games group has the highest mean scores of 26.60 followed by brainstorming with 23.80 while the control group has 14.11 in post-test.

Hypothesis 2
There is no significant main effect of gender on students' achievement in Social Studies.

The data in table 3 shows that the males have a higher mean gain achievement of 8.8 in the post-test. This corroborates what is in table 1 in which results reveal that there is significant main effect of gender on students' achievement in Social Studies. ($F_{(1,233)} = 20.687; P < 0.05$). Also, in table 3, the mean performance of male students in pre-test and post test is higher ($15.67 + 24.42 = 40.1$) than mean performance of female students ($13.17 + 17.14 = 30.3$). The result above shows that male students performed significantly better than their female counterparts.

Hypothesis 3
There is no significant interaction effect of treatment and gender on students' achievement in Social Studies.

The result based on table 1 shows that the interaction effect of treatment and gender on students' achievement in Social Studies is significant $F_{(2,233)} = 17.644; P < 0.05$. This implies that students' gender is sensitive to the treatment. Fig 1 is a disordinant interaction effect of treatment and gender on students' achievement in Social Studies. The figure shows that male students perform better than female students in the three groups (simulation games, brainstorming and conventional strategies). Not only that, simulation games had the highest mean performance followed by brainstorming and lastly conventional method.

Discussion of Findings
Based on the findings of the above results, students exposed to simulation games and brainstorming instructional strategies performed better than those in the control group. This result confirms previous studies that have been carried out on the effectiveness of simulation games. It also corroborates the

opinion of Livingston & Stoll (1973), Graeber, Rim and Links (1979), Butler (1988), and Richard (1997) who emphasize the need for more systematic investigation of the effects of integrating simulation games into instructional strategies.

The Nigerian educational setting is not different. As observed by Akinyemi (1997), Egbugara (1998), Aremu (1998), and Afuwape (2002), the educational effectiveness of games can sustain students' interest in Science and Mathematics. The few science based studies also include those of Adeniran (1994) who provides empirical evidence to support the view that simulation games can be used to increase Mathematics students' motivation and retention. Akinyemi (1997) is of the view that simulation games enhance interaction and peer tutoring. Adelakun (1997) and Afuwape (2002) also report that simulation games can be used to increase students' interest and participation in Integrated Science activities.

On the aspect of brainstorming instructional strategy, previous studies have equally indicated that students exposed to brainstorming learning strategy perform better than those exposed to conventional teaching strategy. Seamon and Kenrick (1992), discussing a case of a seven year old girl, discovered that even gifted individuals find unchallenging assignments and school work boring but brainstorming brings out the best in them and enhances their performance. Also, Adewale (2008) indicates that students with high ability exposed to brainstorming are better achievers in Mathematics than the low ability students.

Conclusion

The study has shown that students exposed to simulation games instructional strategy and brainstorming instructional strategy performed significantly better in their achievement in Social Studies than those students exposed to conventional method of instruction. In the same vein, male students performed significantly better in Social Studies than their female counterparts. It can therefore be concluded that rather than limiting students even at the junior secondary school to conventional instructional strategy, the introduction of modern teaching strategies such as simulation games and brainstorming instructional strategies will go a long way in helping students to strive harder and improve significantly in Social Studies.

Recommendations

1. There is an urgent need for educational authorities in Nigeria to re-appraise instructional strategies employed in teaching Social Studies in schools.

2. Workshops and seminars should be organized from time to time for teachers in secondary schools so as to keep them abreast of modern teaching strategies such as simulation games and brainstorming instructional strategies.

3. Secondary School teachers should always consider the fact that it is professionally unethical to cling to a method of teaching for years irrespective of its overall effectiveness.

References

Adaralegbe, A (1980): Nigerian social studies programme: Retrospect and prospects. *In N.E.R.C. Social Studies: Teaching Issues and Problems*. Benin: Ethiope Publishing Corporation.

Adegbile, J. A. (2007) Methods of teaching oral English (listening and speaking skills) at the junior secondary school levels. *Being a paper presented at a workshop organized for the junior secondary school teachers in Osun State* 6th – 8th February, 2007.

Adelakun S. A. (1997) Gaming in integrated science class. *Paper 38 Science Teachers Association of Nigeria (STAN), Annual Conference Proceedings, 209 – 211.*

Adeniran S. A. (1994) The use of developed games for teaching mathematical concepts; A motivation and retention strategy. *Education Today* 7(2), 55 – 57.

Adeniran S. A. (1994). The use of developed games for teaching mathematical concept of learning impaired students. *A paper presented at the 1st National Conference in Special Education* held in Oyo, Oyo State, Nigeria.

Adewale, J. G. (2008) Effect of brainstorming on students' achievement in junior secondary school mathematics: An effort in making school effective. *Journal of Sociology and Education in Africa.* 7(1) 203 – 218.

Adeyemi, B. A. (2008). The efficacy of peer tutoring as an effective mode of instruction in social studies. *Journal of Sociology and Education in Africa.* 7(1) 149 – 150.

Afuwape M. O. (2002) Simulation game-assisted instruction student cognitive style and numerical ability as determinants of learning outcomes in integrated science in Oyo state, Nigeria. *Unpublished Ph.D Thesis, University of Ibadan.*

Ajimoko, O (1975) "Preparation of secondary school social studies teachers." *West African Journal of Education*, XIX; Feb., 1975 p. 99.

Akinboye, J. O. (2003) Creativity innovation and success. Ibadan: Stirling-Horden Publishers (Nig.) Ltd.

Akinlaye, F. A. (1981) The concept and scope of social studies education for schools and colleges, Ibadan: Onibonje Publishers and NERC.

Akinlaye, F. A. (1997) Social Studies: A sociological approach. Lagos: Pumark (Nig) Ltd.

Akinlaye, F. A., Bolarin T. A., Olaniyonu S. O. A. and Ayodele E. O. (1997) Essentials of social studies education, Lagos: Pumark (Nig) Ltd.

Akinlaye, F. A., Mansaray, A & Ajiboye, J. O. (1996) Fundamentals of social studies teaching. Lagos: Pumark Nigeria Ltd.

Akinyemi, A. (1997) Using games and simulation in teaching. Winneba: University College of Winneba, Ghana.

Anikweze, C. M. (1992) Improving The study of geography in models games and simulations. *Journal of Teacher Education* 1(2), 105 – 110.

Aremu, A. (1998) Effects of card and geo board on primary school pupils' achievement in practical geometry. *An unpublished Ph.D Thesis* University of Ibadan.

Bello O. O. (1986) Problem solving instructional strategies and students learning outcomes in secondary school chemistry *unpublished Ph.D thesis* University of Ibadan.

Bentley, T (2000) Learning Beyond the Classroom Education for a changing World. T. J. International Ltd Padstow Cornwall.

Butter, R. J. Markulis, P. M. and Strang D. R. (1988) where are we? An Analysis of the methods and focus of the research on simulation gaming. *Simulation and Games* 19, (3).

Curran, J. and Hassard, J. (2003). Concept mapping: Backup of meaningful learning model Wisconsin: <u>Jeannecurain</u> habermas.org.

Dubey, D. L. and Barth J. L. (1980) Methods handbook, social studies. The inquiry method approach, Lagos: Thomas Nelson (Nig) Ltd 1980.

Dubey, D. L. and Onyabe V. O. (1980) Social studies for Nigerian teachers. Ibadan: UNN. Press Ltd.

Eble, K. E. (1976) "Discussion" The Craft of Teaching. San Francisco: Jossey – Bass.

Egbugbara, U. O. (1988) Sustaining Students interest in science through games. – The Vocabulary disc and optiminoes. *Paper presented at the Annual Conference of STAN.*

Ernest, P. (1986) Games - A rationale for their use in the teaching of Mathematics in schools. *Mathematics in Schools* Jan 2 – 6.

Fabunmi, M. (2004) The role of gender on secondary school students' academic performance in Edo State, Nigeria. *West African Journal of Education* 24, 1:90 – 93.

Fabusuyi, E. B. (1981): Methodology for teaching social studies in Colleges; Akure. Macmillan.

Famuyiwa, O. O. (1999) Complete course on teacher education: Good Educational Publishers Abeokuta.

Faniran, A (1969) The Use of concepts and models in geography teaching in nigerian high school. *In Majasan, J. A. (eds). New Dimension in Nigerian, High Schools Geography.* University of Ibadan. 58 - 82.

Federal Ministry of Education (2004). *National Policy on Education. Lagos*: Government Press.

Goldman R. (1965) "Readiness for religion" A bass for developmental religious education" London: Routledge and Kegan Paul.

Goldsmid, C. and Wibson E. (1980) "Discussion" passing on sociology. Belmont, C. A.: Wadsworth.

Gorard, S. Rees, G. and Salisbury, J. (2001). Investigating the patterns of differential attainment of boys and girls at school. *British Educational Research Journal* 27, 125 – 139. Retrieved on October 22, 2006. www.landf.co.uk/journals.

Graeber, O. Rim, E. and Unks J. N. J. (1979) A Survey of classroom practices. In Mathematics Report of first, third, firth and seventh grade teachers in Delaware, New Jersey and Pennsylvania. Philadelphia. Pa: *Research for Better Schools*, Inc.: 1979.

Harkin, J. Gill T. and Trevor, D (2001) Teaching young adults. *A handbook for teachers in post compulsory education*. Britain: T. J. International.

Hyman R. T. (1968) Ways of Teaching 2nd Ed. Phila N. Y. Toronto.

Iyewarun, S. A. (1988) Social studies curriculum development for citizenship education. *In Nigerian Journal of Curriculum Studies* Vol 6, (2).

Iyewarun, S. A. (1989). The teaching of Social Studies; Ibadan: Omoniyi Ayeni press.

Jack, A. N. and Johannes, R. (2001). Gender difference in planning, attention, simultaneous and successive (PASS) cognitive process and achievement. *Journal of Educational Psychology* 2:430 – 437.

Knirk, F. G. and Gustafson, K. L. (1986) Instructional technology: a systematic approach to Education. New York: Holt Rinehart and Winston.

Lemlech, J. K. (1984, 1990) Curriculum and instructional method for elementary school. New York: Macmillan Publishing Company.

Livingston, S., and Stoll, C. S. (1973) Simulation games. New York: Free Press.

Magney J. (1990) Game based teacher. *The Education Digest*, 54 – 57.

Mansaray, A (1987) Subject matter and human learning in School *In E. E. Ezewu (ed) social psychological factors of human learning in school*. Leadway books Ltd.

Mansaray, A. (1991) Social studies methods. Department of adult education, University of Ibadan.

Mansaray, A. (1992) Geography methods external studies programme. University of Ibadan.

Mansaray, A. and Ajiboye J. O. (1991) Teaching social studies, through inquiry: A theoretical exploration with practical implication" *Nigerian Journal of Educational Foundations* 2(2) pp. 123.

McKeachie, W. J. (1978) Organizing effective discussion" teaching tips (7th ed) Lexington, M. A. D. C. Health

Nwabuoku, C. (2003) Social studies in modern Nigeria for students in tertiary institution. Agbor: Krisbec publications.

Ogundare, S. F. (1988) Curriculum development: A description of the development of national curriculum for primary social studies in Nigeria" *Educational studies*, Vol. 14 (1) 45-50.

Ogundare, S. F. (2000). Foundations of social studies. *A handbook of concepts and principles of social studies*. Ibadan: SOSAN Western zone.

Ogunsanya, M. (1984) Introduction to methodologies of Social Studies. Ibadan: Evans (Nig) Publishers.

Okwilagwe, E. A. (2002) Modern trends in secondary school geography teaching. In *Ayodele (ed) Teaching Strategies for Nigerian Secondary Schools.* Powerhouse press and publishers.

Olagunju, P. O. and Akinboye, J. O. (1990) Differential effectiveness of brainstorming and kepner tregoe techniques on rational thinking. Department of Guidance and Counseling, University of Ibadan.

Orimoloye, P. S. (1974) A strategy for Curriculum development. The case of social studies curriculum for primary schools with special reference to Western State of Nigeria. *Unpublished Diploma in Educational Studies* Dissertation.

Owolabi O. and Akinboye J. O. (1988) Differential efficacy of brainstorming and behavioural problem solving in fostering creativity. Department of Guidance and Counselling, University of Ibadan.

Parker L., Kelly M. and Sanford J. (1998) The urban context of schools and education: community, commitment and change. *In Educational Theory* vol. 48(1).

Pulos, S. and Sneider, C. (1994) Designing and evaluating effective games for teaching science and Mathematics: An illustration from co-ordinate geometry. *Focus on learning in Mathematics* 16(3) 23 – 42.

Randel, J. M., Moris, B. A., Wetzel C. D. and Whitehill, B. V. (1992) "The effectiveness of games for educational purposes: A review of recent research. *Simulation and Games 23(3)* 216 – 217

Richard, L. D. (1997) Simulation and gaming and the teaching of sociology. *Journal of Theory, Practice and Research.* 2(1) 55 – 90.

Salawu, I. O. (1999) Effects of three instructional media on students teacher learning outcomes in selected teaching skills. *An Unpublished Ph.D Thesis.*

Saunders, P and Gaston, K. (1996) An Investigation in evaluation issues for a simulation training programme. *British Journal of Educational Technology.* 27(1), 15 – 24.

Udoh, E.N.E. (1993) SOSAN and the development of social studies education in Nigeria. *Nigerian Journal of Social Studies* 1(1) 5 - 20.

Ukadike, O. J. (2003) Introduction to the teaching of Social Studies. Onitsha: Lincel Publisher Ltd.

Ukadike, O. J. (2003). Introduction to the teaching of Social Studies. Onitsha: Lincel Publishers.

Vhovhen A. (1978) Practical teaching and the student teaching Benin:, Idodo Ume Publisher.

Wikipedia (2008), The free encyclopedia. Retrieved from: http://en.wikipedia.org/wiki/Game on 26th February, 2008.

Yoloye, E. A. (1995) Method of classroom teaching. *In Ayodele, S. O., Araromi, M. N., Adeyoju, C. A. and Isiugo-Abanihe, I. M.* Educational Research and Study Group Publication Institute of Education, University of Ibadan.

Ysseldyke, J. (1996) Improving teaching and learning: A Thermos Bottle Keeps things hot and cold, but how does it know? *In British Journal of Special Education* Vol 23 (1).

Table 1: Analysis of Covariance (ANCOVA) Summary Table for Social Studies Achievement

Source of variation	Type III sum of square	df	Mean square	F	Significant of F
Corrected model	18885.853[b]	6	3147.642	286.245	.000
Intercept	4.027	1	4.027	.366	.546
Pretest	10332.836	1	10332.836	939.663	.000
Gender	227.483	1	227.483	20.687	.000
Group	3503.883	2	1751.941	159.321	.000
Gender + Group	388.045	2	194.022	17.644	.000
Error	2562.143	233	10.996		
Total	132431.0000	240			
Corrected Total	21447.996	239			

a. Computed using alpha = .05

b. R square = .881 (Adjusted R squared = .887)

Table 2: Summary of Achievement in Social Studies based on Treatment Groups

GRP NO	Groups	No	Pre-Test Mean	SD	Post-Test Mean	SD	Mean Gain Achievement
1	Simulation Games	80	16.60	6.754	26.60	11.607	10.0
2	Brainstorming	80	13.80	4.780	23.80	6.628	10.0
3	Control	80	13.60	1.365	14.11	2.429	0.5

Table 3: Summary of the Achievement in Social Studies based on Gender

GRP NO	Gender	No	Pre-Test		Post-Test		Mean Gain Achievement
			Mean	SD	Mean	SD	
1	M	144	15.67	6.058	24.42	10.490	8.8
2	F	96	13.17	2.045	17.14	5.289	4.0

Fig 1.: Interaction Effects of Treatment and Gender on Students' Achievement in Social Studies
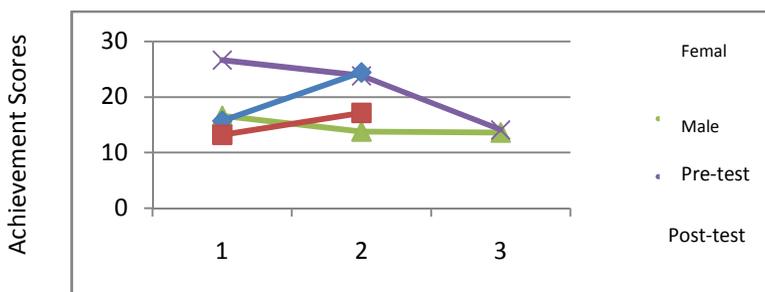
Keys for X-axis on Treatment Groups:

1 – Simulation Games

2 – Brainstorming   3 – Conventional