Effects of Instructional Strategies and Gender on Junior Secondary School Students’ Achievement in Business Studies in Rivers State, Nigeria

Uchechi Ngozi Wosu (Ph.D.)
Faculty of Education, Department of Educational Foundations, Rivers State University

doi: https://doi.org/10.37745/ijeld.2013/vol11n6115 Published June 25 2023

ABSTRACT: Business Studies is offered in Junior Secondary Schools (JSS) as a subject meant to expose learners to commerce, office management, trade and book keeping. In spite of its importance, performance in the subject is below expectation in Rivers State. Previous studies revealed that brainstorming and field trip will improve learning outcomes but they are rarely used while teaching Business Studies. This study, therefore, determined the effects of brainstorming (BTM), field trip (FTTM), and conventional teaching methods (CM) and gender on secondary school students’ achievement in Business Studies. All the JSS 2 students (467) in the selected schools participated in the study. The treatment lasted for seven weeks. The instrument used was Business Studies Achievement Test ($r=0.82$), Data collected was analysed using Analysis of Covariance (ANCOVA) at 0.05 level of significance. There was a significant main effect of treatment on students’ achievement in Business Studies [$F(2,131)=26.70$, partial $\eta^2=0.29$]. Participants in FTTM had the highest mean (35.79), followed by BTM (35.71) and CM (27.54). Results revealed that gender did not have a significant main effect on students’ achievement in business studies [$F(1,131)=.315$, $P> .05$]. Brainstorming and Field trip teaching methods influenced learning outcomes of students in Business studies in Rivers state but Field trip method was better. It is therefore suggested that teachers should use both methods during Business studies classes.

KEYWORDS: instructional strategies, gender, junior secondary school students, achievement, business studies, Rivers state, Nigeria

INTRODUCTION

Business Studies is a prevocational subject which is expected to expose students to general basic ideas about business. The development of business education programs in schools has benefited greatly from the efforts of numerous groups and individuals throughout the years. A component of vocational education called business education gives people the theoretical and practical
information and skills they need to succeed in the business sector, whether they work for the government or for themselves. The National Policy on Education (FRN, 2004), which declares that Nigeria should be united, strong, and independent, is used to support this claim.

According to the Nigerian Educational Research and Development Council (NERDC)’s (2009) Junior Secondary Education Curriculum (JSEC) JSS 1-3, the general objectives of business studies are to:

*Provide the orientation and basic skills with which to start an occupation for those who may not have opportunity for further training; Provide basic business skills for personal use now and in the future; Prepare students for further training in Business Studies; Relate the knowledge and skills to the national economy; Develop basic skills in office occupations.*

Business studies is important because business skills acquired at the secondary school level enable individuals to make useful living as well as prepare students for higher education. The right emphasis placed on the study of Business Studies is strengthened by the Nigeria’s decision to have a paradigm shift from white collar jobs to creation of self-employment. The much needed entrepreneurship skills to help realize this can only be inculcated into individuals early enough through the study of Business Studies. Entrepreneurs, bankers, accountants, economist, etc, all have the cradle of their profession built into Business Studies. This makes the study of the subject strategic for any country that desires to take the well-being of her citizens and the economy seriously.

According to the Federal Republic of Nigeria’s National Policy on Education (NPE), Business Studies is a way to create the groundwork for national technological, economic, and higher education advancement. Khana, Ghouri, Siddqui, Shaikh, and Alam (2010) claim that business studies give students the clerical, managerial, and personal skills they need to adapt to shifting economic and business realities. These skills enable students to create their own wealth and jobs rather than just looking for employment. According to Atakpa (2004), business studies is the area of education that deals with preparing students for careers in the industry.

In spite of the importance of Business Studies as revealed above, performance in the subject is still below expectation in Nigeria and Rivers State in particular. An analysis of Rivers State Ministry of Education results in Business Studies for Junior Secondary School Certificate Examination results (2007-2012) collected from schools in Emohua, Degema and Ikwere Local Government Areas as shown in tables 1.1, 1.2 and 1.3 below readily attests to this poor performance.
Table 1.1. Results on Business Studies from Public Secondary Schools in Emohua Local Government (2007 - 2012)

<table>
<thead>
<tr>
<th>S/NO</th>
<th>YEAR</th>
<th>No of Candidates</th>
<th>DISTINCTION A</th>
<th>CREDIT C</th>
<th>PASS P</th>
<th>FAIL F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2007</td>
<td>2267</td>
<td>2 (0.05%)</td>
<td>328 (14.5%)</td>
<td>1,572 (69.45%)</td>
<td>362 (16%)</td>
</tr>
<tr>
<td>2</td>
<td>2008</td>
<td>2722</td>
<td>25 (0.93%)</td>
<td>1,304 (47.90%)</td>
<td>1,110 (40.79%)</td>
<td>283 (10.38%)</td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>2711</td>
<td>34 (1.26%)</td>
<td>1,322 (48.75%)</td>
<td>841 (31.02%)</td>
<td>514 (18.97%)</td>
</tr>
<tr>
<td>4</td>
<td>2010</td>
<td>1527</td>
<td>32 (2.06%)</td>
<td>770 (50.39%)</td>
<td>329 (21.55%)</td>
<td>283 (18.97%)</td>
</tr>
<tr>
<td>5</td>
<td>2011</td>
<td>1811</td>
<td>10 (0.56%)</td>
<td>925 (51%)</td>
<td>363 (20%)</td>
<td>513 (28.34%)</td>
</tr>
<tr>
<td>6</td>
<td>2012</td>
<td>1600</td>
<td>3 (0.18%)</td>
<td>887 (55.42%)</td>
<td>193 (12.05%)</td>
<td>517 (32.35%)</td>
</tr>
</tbody>
</table>

Source: Rivers State Ministry of Education, 2012

Table 1.2. Results on Business Studies from Public Secondary Schools in Degema Local Government (2007 - 2012)

<table>
<thead>
<tr>
<th>S/NO</th>
<th>YEAR</th>
<th>No of Candidates</th>
<th>DISTINCTION A</th>
<th>CREDIT C</th>
<th>PASS P</th>
<th>FAIL F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2007</td>
<td>2005</td>
<td>60 (3.00%)</td>
<td>351 (17.51%)</td>
<td>1353 (67.48%)</td>
<td>241 (12.01%)</td>
</tr>
<tr>
<td>2</td>
<td>2008</td>
<td>2340</td>
<td>47 (2.01%)</td>
<td>1194 (51.03%)</td>
<td>971 (41.49%)</td>
<td>128 (5.47%)</td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>2600</td>
<td>65 (2.5%)</td>
<td>1352 (52%)</td>
<td>871 (33.5%)</td>
<td>312 (12%)</td>
</tr>
<tr>
<td>4</td>
<td>2010</td>
<td>1987</td>
<td>80 (4.03%)</td>
<td>1034 (52.04%)</td>
<td>457 (22.99%)</td>
<td>416 (20.94%)</td>
</tr>
<tr>
<td>5</td>
<td>2011</td>
<td>2801</td>
<td>70 (2.49%)</td>
<td>1498 (53.50%)</td>
<td>602 (21.49%)</td>
<td>631 (22.52%)</td>
</tr>
<tr>
<td>6</td>
<td>2012</td>
<td>3021</td>
<td>46 (1.52%)</td>
<td>1722 (57.00%)</td>
<td>378 (12.51%)</td>
<td>875 (28.97%)</td>
</tr>
</tbody>
</table>

Source: Rivers State Ministry of Education, 2012

Table 1.3. Results on Business Studies from Public Secondary Schools in Ikwere Local Government (2007 - 2012)

<table>
<thead>
<tr>
<th>S/NO</th>
<th>YEAR</th>
<th>No of Candidates</th>
<th>DISTINCTION A</th>
<th>CREDIT C</th>
<th>PASS P</th>
<th>FAIL F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2007</td>
<td>2672</td>
<td>80 (2.99%)</td>
<td>481 (18.01%)</td>
<td>1843 (68.97%)</td>
<td>266 (10.03%)</td>
</tr>
<tr>
<td>2</td>
<td>2008</td>
<td>2982</td>
<td>60 (2.01%)</td>
<td>4191 (50.00%)</td>
<td>1282 (42.99%)</td>
<td>149 (5.00%)</td>
</tr>
<tr>
<td>3</td>
<td>2009</td>
<td>2804</td>
<td>84 (3.00%)</td>
<td>1514 (54.00%)</td>
<td>954 (34.02%)</td>
<td>252 (8.98%)</td>
</tr>
<tr>
<td>4</td>
<td>2010</td>
<td>2920</td>
<td>103 (3.53%)</td>
<td>1562 (53.49%)</td>
<td>672 (23.01)</td>
<td>583 (19.97%)</td>
</tr>
<tr>
<td>5</td>
<td>2011</td>
<td>3000</td>
<td>60 (2%)</td>
<td>1620 (54%)</td>
<td>660 (22%)</td>
<td>660 (22%)</td>
</tr>
<tr>
<td>6</td>
<td>2012</td>
<td>2850</td>
<td>29 (1.02%)</td>
<td>1638 (57.47%)</td>
<td>399 (14.00%)</td>
<td>784 (27.51%)</td>
</tr>
</tbody>
</table>

Source: Rivers State Ministry of Education, 2012

Table 1.1 reveals a failure rate in Business Studies that has been on the increase. From 16.00% in 2007 to 32.35% in 2012, the failure rate can be put at 3.27% per annum. The failure rate seems to be increasing since the year 2007 and this seems to be a bad precedence for learning outcome in the subject in Nigeria which should not be ignored by educators and stakeholders. The low level of performance in Business Studies in JSSCE is a dangerous signal, considering the importance of
the subject to students and the nation at large. What factors could be responsible for this obvious downward trend in learning outcomes in Business Studies. The teaching–learning process is suspect. Factors such as differences in learners where some respond well to doing things while others respond better to being told things, differences in teachers’ strengths, their likes or preferences and content of subject matter of what is being taught has made it difficult for one teaching method to be adjudged best.

Over the years, the use of some inappropriate teaching methods by teachers has been found to be responsible for the failure to realize the goals of Business Studies. Adepoju (2002) emphasized that the responsibility for the declining under-achievement of secondary school students today may be attributed to teaching approach. He stressed that it has become clear that the observed poor performance in learning outcomes among students are not only a consequence of individual differences but more of quality of instructional strategies. Three factors can affect the way teachers deliver lessons in schools. They include; the characteristics of the learner, those of the teacher and the content. Some learners learn better through the practical, tactical approach, many do so by simply listen to instructions, while others combine listening with seeing that is the audio-visual learners. Therefore, the method or approach used in teaching is crucial for the realization of the desired learning achievement. This further stresses the implication of methods used by teachers to the teaching-learning process.

Teachers need to know the different teaching methods so that they can appropriately decide lessons suitable for learners based on gender of the students. Another reason for teachers to know about teaching methods is that students who have become bored with learning may become interested once again with a new teaching method. For instance in a science class where the practical method is combined with the lecture method, learners are likely to do better than those in a science class where only lecture method is used (Millar, 2004). A study by (Wieman, 2014) revealed that how to teach (with respect to methods employed) is more important than who does the teaching. Therefore, there is the need to introduce, adopt and adapt instructional techniques such as inquiry-based learning method, problem-based learning method; co-operative learning, cognitive-guided instruction, reciprocal learning and self-regulatory learning these are capable of sustaining the interest of learners. An effective teaching method not only improves students’ achievement, but changes learners’ attitude towards a subject. Teaching a vocational subject like Business Studies may require the use of appropriate teaching method(s) for the realization of desired learning achievements.

Brainstorming and Field trip are two teaching methods that can enhance students’ performance. Though both are student-centered, they have some marked differences. While brainstorming takes place within the confines of a classroom, field-trip occurs outside the classroom. The degree of involvement of students in the teaching-learning process is higher in brainstorming than in field-trip. Also, preparation for field trip is far more elaborate than brainstorming and teacher
involvement in the teaching-learning process is higher in field-trip than in brainstorming. Both methods lead to increased independence on the part of students. They are more engaging and delightful ways of learning. According to the National Policy on Education (FRN, 2014) it is observed that Business Studies has the primary aim of preparing people for roles in business enterprises as employees, employers or self-employed persons. It also describes Business Education as the sum total of the knowledge, skills, attitudes and competence that are required for useful promotion and administration of business enterprises. It aims at producing manpower with the requisite knowledge, skills and attitudes for harnessing other resources and bringing them into corporate relationship to yield good services satisfy societal wants and needs. According to Okwuanaso and Nwazor (2000) the main objectives of Business Studies and other related subjects is to instill in the students a pattern of thinking in students and develop certain entrepreneurial attitudes on them early in life.

The Business Studies curriculum incorporates the acquisition of both academic and practical skills needed by students to fit into post-school work environment. This is why Business Studies is classified as a “Practical Subject” in the National Policy on Education (FRN, 2014). In addition to using practical methods in teaching, the teacher has to inject theoretical perspectives into the students’ learning experience within a ‘real world’ environment. Using the field trip method helps the teacher to attain the vocational, practical and training-orientation goals of the curriculum (Ottewill and Macfarlane, 2003; National Business Education Association, 2003). Though the challenges faced by business studies teachers are many, the teaching methods adopted by them in delivering instructions could be a major factor in determining students’ achievement. Teachers tend to combine two or more methods while teaching. Some of these include brainstorming method, discussion method, experimental and discovery methods and field trips.

According to Ogunleye (2002), the most frequently used method of teaching is reported to be the lecture method which has become the model for most schools. The lecture method is a teaching method where the teacher is the main focus of information transfer. It is a method in which a teacher would stand before pupils and give them information on what they are to learn. The lecture method is an oral presentation of information by the teacher. It is teacher centered. The teacher using this teaching method is always very active, while learners are less active, doing all the listening. One of the merits of lecture method is that it helps to educate a large number of people at the same time. Its demerits include: it involves a one way communication and poses problems to skill teaching. It encourages student’s passiveness, and requires highly skilled instructors. The lecture method is still used in schools today because of the unprecedented expansion in school enrolment, shortage of infrastructure coupled with shortage of funds (Ogunsaju, 2001). Undoubtedly, this teaching method has not been able to bring out the desired learning outcome in producing learners that can think and provide reasonable solution to whatever problem that is before them. So, there is a need for Business Studies teachers to have a change of teaching method in order to see how it can influence learning outcome.
In the present study, the researcher investigated the effects of brainstorming, field trip and conventional teaching methods on learning outcomes in business studies. Brainstorming teaching method involves oral and writing aspects. The writing exercises help learners to gain knowledge and skill. The writing exercise involves the learner jotting down the important points about what he or she understands. The learner uses experience, given information, and guiding questions to verbally express his understanding and reaction to the content of learning. Brainstorming, according to Okwilagwe (2011), is allowing a group of students to think about a problem at the same time with a view to having a better idea of the problem. Brainstorming technique, according to Adeyemi (2005), is developed in the belief that the knowledge and ideas of several people pooled together have a greater advantage than those of a single person. In using this technique, the leader, who may be the teacher or a competent member of the class, is responsible for directing the activities of the discussion group(s) in the class. The leader must make sure that every member participates fully in the discussion. According to Akinboye (2003), brainstorming is a platform for broad ideas and collaborative innovation. The purpose of brainstorming is to generate a list of ideas that can be used as hints to help students understand the problem better while giving each student the opportunity to express their ideas, share them with others, and develop new ones (Alblwi, 2009).

The main goals of brainstorming as a teaching strategy are to improve communication, encourage critical thinking and decision-making abilities, and promote a variety of ideas and opinions. It can be applied equally in all important areas of learning. Even though there are wide varieties of instructional techniques available to teachers within the confines of a classroom, outside the classroom field trip could perhaps be the most useful and valuable teaching tool. Could the learning fortunes of Business Studies be better using fieldtrip as a teaching method? This is one of the concerns of this study.

A field trip refers to activities carried out during the course of instruction by the teachers and students outside the four walls of the classroom. Such works are carried out in a real, natural environment rather than in a theoretical way or in controlled conditions. This gives the learners first-hand information on the topic because learners are given the opportunity of observing the phenomena happening in real life situation. Field trip, as the name implies, could be regarded as an educational visit to a place of interest which has bearing with the subject matter that needs clarification and authentication. It is a visit to places like museums, factories, libraries, farms, government establishments, zoos and warehouse. Field trips are not embarked upon for the fun but to make connections between reality and hands-on theory. Since field trips touch all five senses of sight, touch, smell, taste, and hearing, it then means that it provides an authentic learning experience. Field trips can be used as an introduction or conclusion to a unit of instruction or a culminating activity.
There is a need for Business Studies teachers to find effective ways of using field trip teaching method to promote learners’ understanding and help in realizing the goal of making Junior Secondary School graduates to acquire practical and entrepreneurial skills and attitudes necessary for self-employment. To equip learners with these skills, teachers should make use of teaching methods that are learner centered such as educational field trips, brainstorming, project work, group discussion, case studies. The teaching of business skills requires the use of learning by doing and experiential pedagogical approaches (Borrington, 2004). When field trip method is used in teaching, individual differences in learning among the students will be addressed since they have opportunity to see, smell, feel, and touch object and even take part in practicing what they are taught. In spite of the importance of using field trip teaching method, it has been observed that teachers of Business Studies do not take students out on field trips. Some of their reasons are that, it is expensive, risky and time consuming. Unfortunately, many principals share the view. The question now is what can be responsible for this problem? Is it that school principals and teachers do not know the importance of using fieldtrip method to teach Business Studies? Or is it that the teaching method is risky and expensive and a waste of time as claimed? It is against this background that the researcher develops the interest to find the effect of fieldtrip on student’s performance in Business Studies. Since male and female students are involved in field trip, the researcher investigated the effect of fieldtrip on gender. Gender acting as a moderating variable in this study may be a factor to determine students’ performance in business studies. A much debated question is whether boys or girls have higher academic achievement in school subjects like business studies. The issue of gender differences in school, especially in subjects like Business Studies has implications for their future careers and has been a source of concern for educators everywhere the subject is offered. There are different views and reports to the comparative ability of male and female in human endeavours, especially in education. Fabunmi (2004) in his study ‘the role of gender on secondary school student’s academic performance in Edo State Nigeria’ concluded that gender composition has a significant relation with students’ academic performance. Kunovich and Dietebaum (2004) indicated that gender role or gender ideology is an important variable in many areas of research. Since our business world appears to be dominated by males’ folk, this study also tried to find out if the learning outcomes of male students in Business Studies are better than their female counterparts.

It is therefore against this background that this study aimed at finding out what effects teaching methods such as Brainstorming and Fieldtrip would have on students’ achievement in Business Studies in Junior Secondary Schools using gender as a moderating variable.

**Hypotheses**
For the investigation, the following hypotheses were developed:

- H01 The main effect of treatment on students’ performance in business studies is insignificant.
- H02 The main effect of gender on students’ performance in business studies is insignificant.
The effect of therapy and gender on students' performance in business studies is not statistically significant.

METHODOLOGY

This study employed a non-randomized pre-test, post-test, control group in a quasi-experimental design.

Variables in the Study
The following variables were used in this study. These include:

Independent Variables: This operated at three levels:
- Brainstorming Teaching Method
- Field Trip Teaching Method
- Conventional Teaching Method (control)

Moderator Variable: This is:
- Gender - Male/Female

Dependent Variables:
- Students’ Achievement in Business Studies

Target Population
The target population of this study comprised all Junior Secondary School (JSS) Two Students in public secondary schools in Emohua Local Government Area of Rivers state.

Sampling Techniques and Sample
The sample for the study was selected using the purposive sampling technique because the data collected by the researcher from the Rivers State Ministry of Education revealed that students from Emohua Local Government had the least performance in Business Studies in Rivers State. The researcher visited schools to ascertain those schools that were more affected in Emohua Local Government to get data on students’ performance in each school. Based on the outcome, six (6) schools that had the least performance in business studies in the schools visited were purposively selected. To be selected to participate in the study, the schools must be distant from one another to avoid infiltration. The classes selected were randomly distributed to treatment and control groups. The teachers of the students selected served as research assistants. In all, the study made use of six schools, four experimental groups (two for brainstorming teaching method, two for field trips teaching method) two control groups, six teachers and 144 students.

Instrumentation
Business Studies Achievement Test (BSAT) was used for data collection. These are:
Instructional Packages (Stimulus Instruments): Three stimulus instruments were used. These are:

1. Brainstorming Instructional Teaching Method Guide for Business Studies
2. Field Trip Instructional Teaching Method Guide for Business Studies
3. Conventional Instructional Teaching Method for Business Studies

This instrument Business Studies Achievement Test (BSAT) was developed by the researcher to measure acquisition of knowledge in some selected topics in J.S.S. 2. The content validity of BSAT was ensured at the construction stage through experts in business studies as well as International Centre for Educational Evaluation. The pilot testing was done by administering the items to a randomly selected one hundred J.S.S.2 students who did not take part in the study. The result of item analysis helped to reduce the number of items to fifty. Kuder Richardson formula (KR20) was used to determine the reliability index of the test and this gave a value of 0.82. Correct response to each of the items attracted a score of 1 while an incorrect response attracted a score of 0.

Data Analysis

The data collected for the study were classified into pre-test and post-test scores for both experimental and control groups. Descriptive statistics was used to get the group mean scores and the standard deviation of students’ performance in Business Studies Achievement Test (BSAT). Analysis of Covariance (ANCOVA) was used to correct the initial differences in the dependent variables and other extraneous factors, using the pre-test scores as covariates. In addition, Scheffe Post Hoc analysis was used to show how the groups performed and also the difference among the groups if the main effects are significant. It also explained the source of significant difference among the groups where they exist. All hypotheses were tested at 0.05 level of significance.

RESULTS AND DISCUSSION

The results and discussion derived from the analyses of data obtained from the respondents who participated in this investigation are presented with respect to the hypotheses.

Hypothesis 1: There is no significant main effect of treatment (BTM and FTM) on Junior Secondary 2 students’ (pre-test and post-test scores) achievement in business studies. The result of this hypothesis is presented in Table 1a.
Table 1a: ANCOVA Table Showing the Significant Main and Interaction Effects of Treatment and Gender on Students’ Achievement

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>2674.422</td>
<td>12</td>
<td>.788</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest Achievement</td>
<td>2195.484</td>
<td>2</td>
<td>1097.72</td>
<td>26.702</td>
<td>.000*</td>
<td>.290</td>
</tr>
<tr>
<td><strong>Main Effect:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Group</td>
<td>2195.484</td>
<td>2</td>
<td>1097.72</td>
<td>26.702</td>
<td>.000*</td>
<td>.290</td>
</tr>
<tr>
<td>Gender</td>
<td>12.966</td>
<td>1</td>
<td>12.966</td>
<td>.315</td>
<td>.575</td>
<td>.002</td>
</tr>
<tr>
<td><strong>2-way Interaction:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment x Gender</td>
<td>25.017361.</td>
<td>2</td>
<td>12.508</td>
<td>.304</td>
<td>.738</td>
<td>.005</td>
</tr>
<tr>
<td>Error</td>
<td>5385.551</td>
<td>131</td>
<td>41.111</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8059.972</td>
<td>143</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1a shows the significant main effect of treatment on Students’ Achievement of Junior Secondary School 2 in business studies. It reveals that after adjustment for the covariate, there is a significant main effect of treatment on students’ achievement in business studies \[F(2,131) = 26.702, P < .05, \eta^2 = .29\]. The hypothesis was therefore rejected. The partial Eta squared estimate was .290. This implies that 29% of the variance observed in the achievement post test score was due to treatment. In order to determine which group differed significantly among the treatment groups, the data was subjected to Scheffe Post-hoc analysis. The results are presented in Tables 1b.

Table 1b: Scheffe Post Hoc Multiple Comparison of Pupils’ Achievement in Business Studies by Treatment.

<table>
<thead>
<tr>
<th>(I) Treatment</th>
<th>(J) Treatment</th>
<th>Mean Difference (1-J)</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTM</td>
<td>FTTM Control</td>
<td>-8.3333E-02</td>
<td>.998</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.1667*</td>
<td>.000</td>
</tr>
<tr>
<td>FTTM</td>
<td>BTM Control</td>
<td>8.3333E-02</td>
<td>.998</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.2500*</td>
<td>.000</td>
</tr>
<tr>
<td>CONTROL</td>
<td>BTM FTTM</td>
<td>-8.1667*</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-8.2500*</td>
<td>.000</td>
</tr>
</tbody>
</table>

*The mean difference is significant at p<.05
Table 1c: Scheffe Post Hoc Means of Groups in Homogenous Subsets by Treatment

<table>
<thead>
<tr>
<th>TREATMENT GROUPS</th>
<th>N</th>
<th>Subset for alpha = .05</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>CONTROL</td>
<td>48</td>
<td>27.5417</td>
</tr>
<tr>
<td>TRT 1</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>TRT 2</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Sig.</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

Means for groups in homogenous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 48.00
b. The group sizes are equal

The results presented in Table 1c indicates that there was a significant difference in achievement mean scores in Business Studies between the participants in BTM (\( \bar{x} = 35.7083 \)) and Control (\( \bar{x} = 27.5417 \)). Also FTM (\( \bar{x} = 35.7917 \)) differs significantly from the Control (\( \bar{x} = 27.5417 \)). There exists a slight difference between the mean scores of BTM (\( \bar{x} = 35.7083 \)) and FTM (\( \bar{x} = 35.791 \)).

**Hypothesis 2**: There is no significant main effect of gender on students’ achievement (pre-test and post-test scores) in Business studies.

Results on Table 1a revealed that gender did not have a significant main effect on pupils’ learning outcome in business studies \([F_{(1,131)} = .315, P > .05]\). Based on this finding, Hypothesis 2 was not rejected. The estimated Eta square reveals that gender contributed only .02% of variance observed on the pupils’ achievement in business studies.

**DISCUSSION**

The result clearly showed the potency of FTM and BTM over the conventional teaching method. This might be as a result of the effectiveness of the teaching methods that were introduced. Also, the orientation given to the students’ before the treatment might have contributed significantly to their performance. Furthermore, the environment that was conducive filled with real-life materials to learn with, might have influenced their performance. This supports the findings of Reniel and Williams (2002) who asserted that field trips are valuable experiences for students because they have a lasting impact that goes beyond the learning of facts. Informal learning venues, such as museums and factories, can help visitors feel more confident discussing and using science. This study is also in agreement with Bamberger and Tal (2008) discovery that museums offer students concrete experiences that aid their understanding of the content presented at a museum. These experiences also helped students understand content they had previously learned. Even when teachers or guides did not specifically point them out to the students, they were able to make these connections to the material they had studied in class. Field visits enable students to connect to
content information in personally relevant ways and support lifelong learning, according to Bamberger and Tal.

The motivation of pupils is increased by activities outside the classroom, according to Pace and Tesi (2004). The educational outcomes of historically underrepresented groups, such as women and minorities, are also improved by these experiences. A change from the typical classroom routine can be a motivational strategy that gives kids an experience to look forward to. In addition, these unique experiences are remembered into adulthood (Pace and Tesi, 2004). This is also in line with Ajaja's (2010) research on how field studies affect educational outcomes.

The study's findings show a significant difference in process of science scores for field trip participants between the pretest and post-test, a significant difference in process of science test scores between students exposed to field experiences and those who were not, a significant difference in biology achievement test scores between students exposed to field experiences and those who weren't, and a significant correlation between process of science scores and biology achievement scores. The study came to the conclusion that field trips improved students' attitudes toward biology, helped them better grasp how science works, and had a big impact on their academic performance.

The results of this study are further supported by a study by Adewale (2008), who discovered that students exposed to the brainstorming learning approach outperformed those in the control group. In a study published in 2013, Tayyabazarif showed that brainstorming can help middle school pupils develop their confidence and communication abilities while also helping them better absorb the topic. He continued by stating that a significant part of it is because brainstorming not only attracts students' attention but also inspires them to participate in the class in a fun and interactive way while igniting their interest in the main topic.

This study was able to establish that there was no significant main effect of gender on students’ achievement in business studies. Therefore, both male and female students’ performed well in business studies learning outcome. This supports the finding of Ekanem, (2008), in a study of students’ academic performance in Business Studies by gender. In a similar vein, Afuwape and Oludipe (2008) carried out a study in Nigeria which the findings of the study revealed that there was no significant difference in academic performance in Integrated Science between males and females. The findings of this study also support the findings of Onuka and Durowoju (2011) who showed that gender has no significant effect on students’ cognitive achievement in economics. However, the finding negates the earlier studies of Fabunmi (2004) whose study discovered that gender composition had a significant relationship with students’ academic performance. Also, the finding is in contrast to Jack and Johannes, (2001), who said that girls tend to perform better than boys in reading and verbal skills while the reverse is the case in manipulative and physical productive tasks.
On the interaction effect of treatments (BTM, FTM and CM) and gender on JSS2 students’ achievement (pre-test and post-test scores) in business studies, it indicates no significant interaction effect of treatment and gender on students’ learning outcome in business studies. This implies that the use of BTM, FTM and CM crossed with gender of the students has no effect on their learning outcomes in business studies. This may be as a result of the orientation or advice given to the students’ before the commencement of the treatment. The students were equally given examples of the types of job that people who studied business education are suited for. This finding supports the study of Yinyinola (2008), which revealed that all learners can perform equally in a given task, irrespective of sex. However, the finding of this present study is contrary to that of Lawrence et al (2006) who did find a significant difference.

CONCLUSION

The result of this study provides empirical evidence that students perform better when the appropriate teaching method is used to teach. This is an evidence that the teaching method adopted by the teacher influenced the students learning outcome significantly. Whereas appropriate teaching method would facilitate understanding of new concepts, inappropriate teaching method is likely to constrain knowledge retention and application (Chang, 2010). In this regard, the use of appropriate teaching methods to deliver lessons had a greater impact than the content covered in a course of study. It is therefore suggested that Brainstorming and field trip teaching methods should be incorporated into the teaching and learning of business studies in Junior Secondary Schools in Rivers State, Nigeria.

REFERENCES


National Business Education Association. (2003). This we believe about Business Education in Global Environment Reston: NBEA

Nigerian Education Research and Development Council (NERDC) (2009).


Tayyabazarif A.M. (2013). Role of using brainstorming on Student learning outcomes during teaching of Social Studies at middle level.