**Research Article**

# Note-Taking Patterns as a Way of Improving Students Interest in Teaching and Learning Geography

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**ABSTRACT:** *This study was prompted by the consistent dwindling rate of enrolment and interest in geography in recent time senior secondary school certificate Examination (SSCE). The poor image of geography among students was attributed partly to the wide content and partly to the old fashioned approach to the teaching of the subject. This study therefore was on Note-taking patterns as a way of improving students' interest on teaching and learning geography in secondary school. A non equivalent quasi-experimental research design was adopted by the researcher. Two hundred and twenty five (225) students in three intact classes from three selected secondary schools in Enugu North Education Zone of Enugu State form the sample. The experiment was conducted during the students' normal class periods and their regular teachers trained by the researcher taught the students under the supervision of the researcher. Two intact classes were randomly assigned experimental group I was taught using outlined note-taking pattern; experimental group II taught with branched note-taking pattern and the control group taught using the conventional/Linear note-taking pattern. Interest scale on Geography (ISOG) was used for data collection. Means and standard deviations were used for answering the research question while the hypothesis was tested using Analysis of covariance (ANCOVA). The results of the study revealed that student taught using outlined note-taking pattern showed more interest in studying geography more than the other two groups of the study. Equally those taught with branch note-taking pattern indicated more interest than the control group. Based on this recommendations were made on how to train teachers on how to prepare more practical note-taking patterns as that will make the learning of geography more attractive to the students.*

*Keywords: Geography, Interest, learning, Note-taking, Teaching*

## I. INTRODUCTION

In the recent time it was observed that interest in geography among senior secondary students was diminishing as indicated in the low enrolment by students in the senior secondary certificate Examination (SSCE). The poor image of geography among secondary school students was attributed partly to the old fashioned approach to the teaching [1]. Teaching geography in school was therefore criticized for not being able to prepare students for effective living in the society. The teaching was theoretical. Both performance in examination and interest in the subject were also observed to be poor. Questions both in teacher-made and external examination analyzed according to processes involved showed over emphasis on memory [2].

In the face of all these, the Federal Government still recognized the importance of Geography in national development [3] in the 6-3-3-4 educational programme in Nigeria as it concerns secondary education, the curriculum is composed of two major sections, the core subjects and electives. Geography was recognized as one of the core subjects although an elective with literature in English and history. By this arrangement, science based students are only left with the option of choosing Geography as one of the subject they must offer.

During the revision of various curriculums towards the 6-3-3-4 educational programme in Nigeria in 1985, Geography teachers made a lot of inputs by infusing more realistic topics into Geography curriculum. Some irrelevant topics were edited out without lowering the standard of the subject. In the curriculum package, emphasis is on conceptualization, local studies,

field work and problem solving approach as a means of preparing the minds of the learners for solving Geography problems [4]. Realistic topics such as Environmental hazards and Environmental Interactions were included in the curriculum, the innovation made improved teaching methods necessary. For instance, filed work became compulsory aspect of continuous assessment and it goes to all aspect of Geography to enable students of Geography acquaint themselves with Biological phenomena. Other important methods include practical work, game and simulation ingredients for teaching and learning of Geography.

The problem of geography at the implementation levels of the curriculum process has been much concerned to Nigerian geographers. The problem ranges from poor methods of teaching and evaluating the subject, lack of teaching materials and to lack of interested and motivated teachers [5] . Geographers have therefore focused attention on how to improve the teaching of the subject so as to stimulate the students' interest. [6] indicated that the problem with geography is in its teaching methodology. It is the methodology problem according him that led to such criticisms that the scope of the subject is very wide or that the time allocated to the teaching of the subject is not enough. Therefore the questions are how can the teaching of this wide content subject be made more meaningful and attractive to the students? Which learning strategies would attempt to reduce the scope without lowering the standard of the subject so as to facilitate revision for students during their internal and external examinations?

To keep the geography flag flying, [7] suggested that geography has to be taught more meaningfully by resourceful, dedicated and intrinsically motivated teacher especially in the period of depressed economy. However, geography educator and researchers have been working on how to improve the teaching of the subject so that meaningful learning will take place; this has led to the development of various models, methods and techniques for the teaching and learning of geography [7],[8]. Project-work has been developed and used [9]. Computer Assisted learning procedure have been popularized [10]. Role play in geography has been explored [11]

In all these research efforts highlighted above in the area of geography education, little effort has been in the area of geography education, little efforts has been made to look into note-taking patterns as it is an important factor in learning. Note-taking pattern is a study method whose efficacy could be tested in practical terms. After the class lesson, notes become the students' closest companion. It is the most readily available aid to the memory. At both secondary and tertiary levels, students learn from many sources, therefore taking good notes is of practical importance. Hence without good notes, students would find it difficult to integrate information from all these sources. In this study, the research examined how three different note taking patterns can improve students' interest in learning geography in secondary school. These patterns are Branched notes, Outline notes and Linear/conventional note-taking patterns.

## 1.1 Linear/conventional note-taking patterns

According to [12] "the greatest weakness among students shows itself most clearly in note-making. This is the assumption that notes should be taken in much the same way. In other words, each note you take is written on the line after the previous note gradually filling the page from top to the bottom". Here, all what the lecturers says are written down from top to down of the pages of the notebook. The use of conventional notes call for the development of consistent method of indicating important points like underlining and starring, use of pattern of abbreviations consistently so that it becomes a personal shorthand, For example

| Govt. | = | government | $\therefore$ | = | therefore |
| wt | = | with | b/4 | = | before |
| W | = | which | iow | = | in other wards |

It is one type of note that is generally criticized for being too lengthy and verbose. However the advantage of note is that one does not have to comprehend before writing down the note. Moreover, since all that the lecturer said has been written down, one is sure that no point is deleted. The method has limited utilization and application. For instance, one cannot use it in taking down notes from written text is will boil down to copying the text all over again.

## 1.2 Branched Notes

Step involved in developing branched notes are as follows, first questions are set or a topic chosen. If it were from a text, the passage is reviewed and the main subject is at the middle of the paper. The main points from the main subject branches; as the lecture proceeds more detail are added.

Patterned notes are the modified types of branched notes. Patterned notes begin at the center of the page and radiate out rather than begin at the top and work down. The logic of the lecture is developed as a two-dimension network with factual and reference material displayed in their appropriate relationship to other. The approach eliminates the problems of order and logic, starting and editing section and organization of data. For example, in studying John as a topic; John must go in the center of the pattern and the various aspects should radiate from the center.
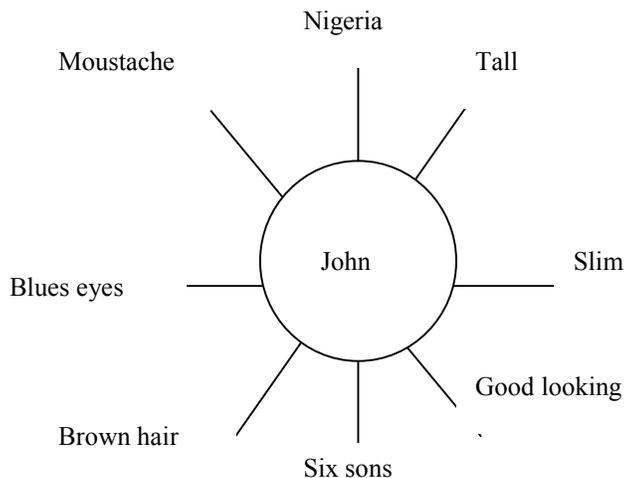


Figure 1: Branching note-taking pattern

Pattern notes are open-ended allowing for insertion of extra material without destroying the logic. Both the branched and patterned notes confined to one page so it is possible to go through it at once without rambling. However, the notebook is too technical and unfamiliar and one has to master the subject matter in order to make the note. The idea of copying note from a fellow student is always possible with this method.

## 1.3 Outline Notes

In producing outline notes, a lot of headings and sub-heading to break up the note into topics or sections. In case of text, underlining is used to highlight points. It is usually indented so that the main headings are near the margin and the minor points are progressively set out. The method makes use of various system of numbering which may also include numerical, Roman numerals (of capital and small), Alphabets (of capital and small). For example in study of Television, the following outline note can be produced.
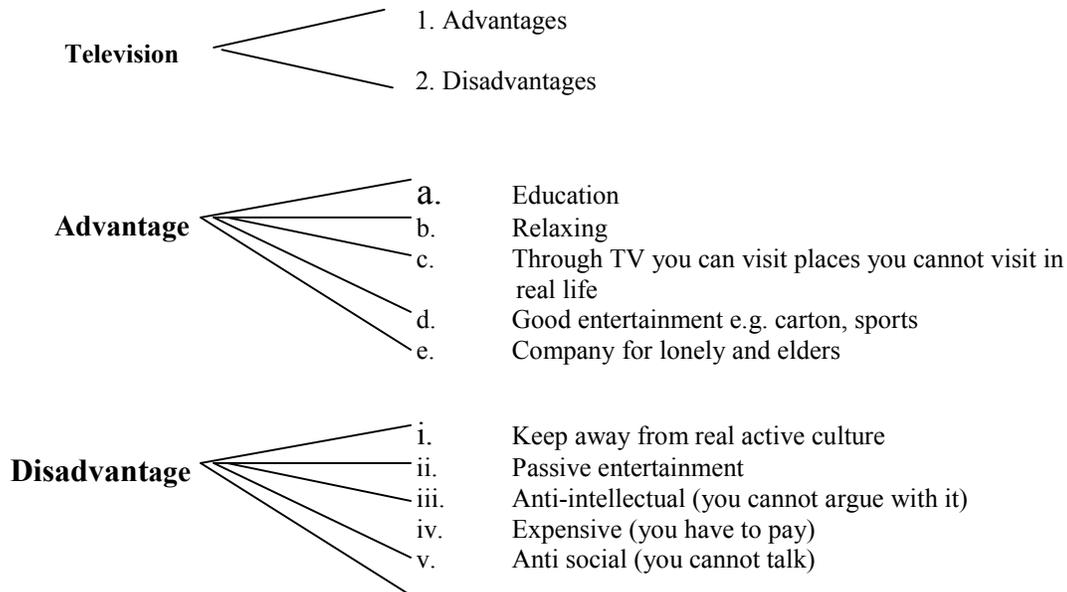
**Television**
1. Advantages
2. Disadvantages

**Advantage**
a. Education
b. Relaxing
c. Through TV you can visit places you cannot visit in real life
d. Good entertainment e.g. carton, sports
e. Company for lonely and elders

**Disadvantage**
i. Keep away from real active culture
ii. Passive entertainment
iii. Anti-intellectual (you cannot argue with it)
iv. Expensive (you have to pay)
v. Anti social (you cannot talk)

Figure 2: Outline Notes taking pattern

1.4 Interest

Interest according to [13] refers to the tender ages of a learner to seek out and participate in certain activities from which he drives joy. [14] defines interest as the determiner of success, second to importance to intelligence. Supper's definition stresses the relationship between interest and learning. To him, interest facilitates learning. Interest helps learners to explore activities fully and to come out with desired learning outcomes. It is a quality that arouses a curiosity that holds and maintains attention. No wonder [15] pointed out that unless a learning situation is arranged in a way that would arouse and maintain students interest, they will not learn well or work consistently. [16] advised that in studying learners' interest, care should be taken to identify those undesirable interest areas. Learners interest has to be guided such that educational objective might be directed towards eliminating undesired activities.

The declining enrolment in the school certificate geography is a reflection of the low interest of the students towards the learning of geography. [5] noted that interest plays a major role in any undertaking as it influences devotion to duties, fairness, honesty, endurance and discipline. The interest of students have led to the declining popularity of the subject over the year [17] Geography teachers have expressed deep concern over this unfortunate trend of our time and unless something is done about it, the position of geography in school curriculum may be jeopardized hence the importance of this study.

This study was delimited to find out whether branched, outline and conventional note-taking patterns can improved students' interest in geography among senior secondary school (SSSI) in Enugu North Educational Zone of Enugu State. The study was guided with one research question and one hypothesis thus

1.5 Research Question: How do the note taking patterns influence students' interest in geography?

1.6 Hypothesis: The student interest towards geography as measured by interest scores will not differ significantly due to different note-taking patterns. This hypothesis was tested at 5% level of significance.

## II.    METHODOLOGY

The research is a quasi-experimental study of one-equivalent control group design. This is because it was not possible to have complete randomization of the subjects. Intact classes were used. The study was quasi-experimental because the researcher manipulated variables of the study; (outline, branched and linear) note-taking patterns and observed their effects on interest of the students. These intact classes randomly assigned to experimental and control groups were used.
The treatment of the subject was done as indicated below:

### Table 1: Representation of Pre-Test Post Test Control Group Design

| Group | Pre test | Research | Post test |
|-------|----------|----------|-----------|
| $E_1$ | $O_s$ | $X_1$ | $O_t$ |
| $E_2$ | $O_s$ | $X_2$ | $O_t$ |
| $E_3$ | $O_s$ | $X_3$ | $O_t$ |

$E_1$ = represents experimental treatment group on Outline Notes
$E_2$ = represents experimental treatment group on Branched notes
$E_3$ = represents con troll group on conventional/Linear roles
$O_S$ = represents pretest on interest
$O_t$ = represents post test on interest
$X_1$ = represents treatment condition on outline note-taking pattern
$X_2$ = represents treatment condition on Branched not-taking pattern
$X_3$ = represents treatment condition on conventional/Linear notes.

2.1  Area of Study

The study was conducted in Enugu North Local Government Area out of the seventeen (17) Local Government Areas of Enugu State. Enugu North is predominantly an Urban L.G.A. left out after carving out the present Enugu East and Enugu South of Enugu Urban municipal area.

2.2. Population

The population of this study consisted of all the source secondary schools that have at least three classes in Enugu North L.G.A. SSS 1 students were used because they had not yet made choice of which subjects to offer in Senior Secondary Certificate Examination (SSCE). Secondly, since the SSS1 students were exposed to study of geography for the first time, they had not formed fixed opinion in the subject.

2.3. Sample and Sampling Techniques

The sample consisted of 225 SSS1 students. The samples were drawn through a multi-staged technique. All schools in Enugu North L.G.A. were clustered into male, female and mixed schools. Then random sampling technique was used to select one male, one female and one mixed school. All the selected school had a minimum of three classes in a stream of SSS1. A random sample technique was used to choose three streams in schools that have more than three streams. In each school therefore, there was a random assignment of intact classes to experimental group one (outline notes), experimental groups two (branched notes) and control group (conventional/linear notes).

**Table 2: Sample of SSS1 Students Used for the Study**

| School | School type | Exp group I | Exp Group II | Control Group | Total |
|--------|-------------|-------------|--------------|---------------|-------|
| 1 | Male only | 26 | 22 | 25 | 73 |
| 2 | Female Only | 28 | 27 | 25 | 80 |
| 3 | Mixed | 24 | 25 | 23 | 72 |
| | Total | 78 | 74 | 73 | 225 |

## III.     INSTRUMENT FOR DATA COLLECTION

The instrument for data collection was interest scale on Geography (ISOG). ISOG was a 20-item interest scale developed by the researcher. ISOG was made up of geography related statements developed to measure the interest attributes of the students in the area of study which are (i) The Solar System, the Rotation and Revolution of the Earth and the longitudes and Latitudes. The respondents were expected to indicate their degree of agreement or disagreement on a number of positively and negatively cued statements about the stated selected topics in geography.

3.1 Validity of ISOG

ISOG was subjected to face validity. The instrument was validated by two experts in geography department in the University of Nigeria, Nsukka and one expert in Measurement and Evaluation in Ebonyi State University, Abakaliki: The criticisms and retting helped in modifying and/or replacing some items. Initially a total of thirty (30) items composed the ISOG. ISOG was initially test at college of Immaculate Conception (CIC) Enugu in Enugu South. The interest scale was administered in SSS1 student who were about to start their promotion examination to SSSII and who had already studied the topics under this study. The students made up of intact classes who were available at the time the research visited the school. The purpose of the pilot testing was to the students. Finally 20-item interest scale statements made up the ISOG.

3.2. Reliability of ISOG

In other to establish the co-efficient of internal consistency of ISOG, the scores generated from the SSS1 students used for the trial tests were applied in Cronbach Alpha formular. Using the Cronbach Alpha formular, internal consistency of 0.72 was obtained for 180G. Cronbach Alpha formular for establishing reliability was considered appropriate for items that are not dichotomously scored such as ISOG. The formular is stated thus

$$\alpha \quad = \mathbf{r} = \eta / n - 1 \left(1 - \sum S_1^2\right) S_2^2$$

Where   n = number of items

$S_1^2$ = variance of a single item
$S_2^2$ = variance of total test items
$\sum$ = summation
$\alpha$ = Cronbach Alpha

## IV.     EXPERIMENTAL PROCEDURE

In each secondary school, three intact classes of SSS I were randomly drawn. Intact classes were secondary assigned to treatment condition as: experimental group was taught with outline note-taking pattern while the control group was taught

with the conventional/linear note-taking pattern. The students were asked to respond to the interest scale before and after the experiment. Their regular teachers under the supervision of the researcher taught the students. The experiment lasted for only three weeks which was the period permitted by the school authority.

4.1 Control of Extraneous Variables

In order to increase internal validity of the experiment and reduce to great extent the possible experimental bias the following measures were adopted.

i. Experimental Bias:- The researcher and not do the actual teaching of both experimental and control groups. The actual teaching was done by the regular teacher of the participating classes.

ii. Teachers Variable: There was training programme of the teachers that were involved in the teaching. During the training period, the radiated lesson plans were discussed between the teachers and the researchers. The research gave the teachers common instruction. There were trial teachings by the teachers during the training programme which was supervised by the researcher

iii. Initial Group Difference:  All sampled schools were public schools unity schools and private schools were not used. In the public schools, there is nothing like ability streaming arrangement.

4.2 Lesson Plans

The initial draft of the lesson plans drawn by the researcher for the experimental and control groups were validated by two geography teachers and expert in measurement and evaluation from the Faculty of Education, University of Nigeria, Nsukka. The modified lesson plans were used during the training of teachers programme. Feedbacks from the training programme on the lesson plans were incorporated in the final draft of the lesson plans.

4.3. Administering and Scoring of the Instrument.

ISOG was administered to the students before the study began. This was the pre-interest test which served as covariates for the two variables. The lesson plans were used in teaching the students. The actual teaching lasted for three weeks and the normal time table of the school was followed. ISOG was administered to the students immediately after the last period of teaching. This was the post interest test.


## V.     ANALYSIS/RESULT

Means ($\bar{x}$) and standard Deviation were used in analyzing the research question. Means were used because it is the most appropriate statistical tool to use for such situation and as such it takes all observation and measurement involved in the study into consideration. Analysis of Covariance (ANCOVA) was used to test the hypothesis, ANCOVA was used because intact classes were used and as such it corrects the error of initial differences in the ability levels among the students used for the study.

In answering the Research question: How do the Note-taking patterns influence students' interest in geography? Thus:

**Table 3: Means and Standard Deviation of Students Post Interest Score in Geography**

| | Exp Group I Outline note | | | Exp Group II Branched Note | | | Control Group Linear Note | | |
|---|---|---|---|---|---|---|---|---|---|
| | $\overline{x}$ | SD | N | $\overline{x}$ | SD | N | $\overline{x}$ | SD | N |
| Post interest score male | 50.20 | 10.06 | 40 | 41.44 | 11.33 | 32 | 39.50 | 7.46 | 38 |
| Post interest score female | 51.53 | 6.37 | 38 | 40.95 | 4.21 | 42 | 40.69 | 4.70 | 35 |
| Overall | 50.85 | 8.44 | 78 | 41.16 | 8.03 | 74 | 40.07 | 6.27 | 73 |

TABLE 3 showed that the mean interest score for students taught with outline notes was 50.85; the mean interest score of student taught with branched notes was 41.16 and the mean interest score for students taught with linear/conventional was 40.07. This meant that student taught using outline notes had the highest mean interest in geography than those taught with branched and linear notes. However those taught with branched notes had higher mean interest than those of the control group.

In testing the hypothesis

$H_0$: μ= 0 Implying: The student's interest toward geography measured by their mean interest scores will not differ significantly due to different note-taking patterns.
    Vs
$H_1$: μ≠0 Implying: The student's interest toward geography measured by their mean interest scores will differ significantly due to different note-taking patterns.

**Table 4: ANCOVA of Overall Students' Interest Scores by Note-Taking Patterns by Gender**

| Source of variations | Sum of Squares | Df | Men Squares | F-calculated | F-critical | Remark |
|---|---|---|---|---|---|---|
| Covariates | 2600.285 | 1 | 2600.285 | 54.683 | 3.84 | * |
| Main Effect | 4317.333 | 3 | 14.39.111 | 30.264 | 2.60 | * |
| Method | 4244.944 | 2 | 2122.472 | 44.634 | 2.99 | * |
| Sex | 28.742 | 1 | 28.747 | 0.605 | 3.84 | |
| 2 way interaction method by sex | 61.321 | 2 | 30.660 | 0.645 | 2.99 | |
| Explained | 8038.505 | 6 | 1339.751 | 38.174 | 2.09 | |
| Residual | 10,365.411 | 218 | 47.552 | - | - | - |
| Total | 18,404.916 | 224 | 82.165 | - | - | - |

Significance at $p < 0.05$

TABLE 4 provided data for testing hypothesis stated above. The data showed that the calculated F-value of 44.634 was higher than the critical F-value of 2.99 for 2 and 218 degrees of freedom at 5%level of significance. A higher significance ratio suggests the rejection of null hypothesis. The null hypothesis of this study was therefore rejected. This implies that note-taking patterns had significant effect on the interest of student towards the study of geography in secondary schools.

## VI.    CONCLUSION

Evidence obtained from this study regarding the level of interest in geography as it is affected by the methods of note-taking showed that the two experimental groups significantly demonstrated more interest in geography then the control group. This must be because outline note-taking pattern involves students' active participation in the classroom. It was a strategy that required students to identify and name the interrelationship between the main ideas [5].  The outline notes have some advantages of making the notes brief and economical. The main points of the lesson are easily recognized, less face is occupied and it appears simple.

## VII.    RECOMMENDATIONS

The following recommendations are made based on the findings of this study.

i. Since both outline and branched note-taking patterns were found efficacious in engendering interest in geography and the techniques are not yet popular in our schools, the techniques should be incorporated in the curricular for teacher training institutions.
ii. Arrangements should be made by professional Associations such as STAN to organize workshops seminars and conferences for the serving teachers on the ways of acquiring the skills of improving on the outline methods of note-taking patterns.

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