Use of Charts as Instructional Materials for Effective Teaching and Learning of Economics in Senior Secondary Schools

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Abstract

The study examined the use of charts as instructional materials for effective teaching and learning of Economics in Senior Secondary Schools in Bwari area council in the FCT- Abuja. The study was guided by three research questions and hypotheses. The study adopted a descriptive design. The population of the study was 15,715 Economics teachers and students derived from twelve (12) public senior secondary schools in Bwari area council, FCT-Abuja in 2021/2022 academic session. The sample size was 100 drawn from the population through random sampling technique. The instrument used was the designed questionnaire titled: The Use of Charts as Instructional Materials for Effective Teaching and Learning of Economics (TUCIMETLE). It was developed by the researchers and validated by three experts from Veritas University, Abuja. The instruments were trial tested using 5 Economics teachers and 15 senior school II (SS II) Economics students of Government Secondary School, Kubwa in Bwari Area Council of the FCT who were not part of the present study. The internal consistency of TUCIMETLE was obtained using Kuder Richardson formular 20 (K-R$_{20}$). Reliability coefficient of 0.82 was obtained for the TUCIMETLE. Mean and standard deviation scores were used to answer research questions while the null hypotheses were tested at 0.05 level of significance using t-test. Results showed that there was no significant difference between the views of teachers and students on types of charts used as instructional materials for effective teaching and learning of Economics, there was no significant difference between the views of teachers and students on the benefits that the use of charts as instructional materials have on effective teaching and learning of Economics, there was no significant difference between the views of teachers and students on the challenges teachers and students face when using charts as instructional materials for effective teaching and learning of Economics. Based on these findings, it was recommended that in order to enhance Senior Secondary School students' interest and improve academic achievement in Economics, Economics teachers should make use of the various types of charts we have in teaching and learning Economics amongst others.

Keywords: *Chart, Economics, effective, instructional materials and use.*

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Introduction

Education provides in the world today, the basic tool for lucrative employment, economic prosperity, personality growth, interpersonal relationship and development for moral build up. It can be contemplated as a prime tool for systematized human and material development of nations. In the absence of education, ignorance, underdevelopment, crime, poverty amongst others become the case. Effective teaching may not take place without the use of instructional materials to promote innovation in modern fields such as science and technology (Bukoye, 2019). Teaching occurs when an individual deliberately plans to assist another individual (a learner) or a group of individuals (learners) in learning a particular task (a subject or a course). This is to say that, teaching simply means impacting knowledge, values, skills and attitudes to the learner by the teacher.

According to Chakra (2016), teaching Economics to students in a clear and unbiased manner supports beginner students to master the essential principles of understanding the economizing problem, specific economic issues, help the student to understand and apply Economics in a precise and empirical manner on economic issues and promote a lasting student interest in issues of Economics. Economics is one of the elective subjects to be studied at the Senior Secondary School (SSS) level, as presented by the National Policy on Education (NPE) developed by the Comparative Education Study and Adaptation Centre (CESAC) and now reviewed by the Nigerian Educational Research and Development Council (NERDC) (Ikpesu and Appah, 2021). To teach Economics just like every other subject would entail the use of instructional materials to aid the student's pay attention and further explain concepts.

Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses. Economics is a social science that seeks to analyze and describe the production, distribution and consumption of wealth (Ikpesu and Appah 2021). Economics permits individuals and institutions to make judicious use of scarce resources and to guarantee the even distribution and allocation of resources to different units that will give rise to development in the country. The act of teaching or conveying information to others is referred to as "instruction," whereas "media" refer to any item or technology that transmits information from a source to a receiver or vice versa. Therefore, Instructional materials are vital tools used in educational lessons which include active learning and assessment. They permit interaction between students and words, symbols and ideas in techniques that build up their abilities in reading, listening, thinking, viewing, solving, speaking, writing, alongside the usage of media and technology. Thus, an effective use of instructional materials is required to have good comprehension and retention of the lesson being taught in class by teachers. Instructional materials are non-print and print items that are aimed at impacting knowledge on students in the educational process (Bukoye, 2019). Instructional materials include printed and reference materials (textbooks, magazines, newspapers), graphic materials (graphs, charts, diagram, maps, globes), display materials (chalkboard, magnet board, bulletin boards), projected materials (television, overhead projector, video tape,) and audio and other visual materials (radio, model, computer, tape recording and the rest of them.

A chart is a pictorial or diagrammatical representation of data. It is used to illustrate different types of data. It is one of the visual aids that can be used in the teaching and learning process. There are different types of charts used in teaching and learning Economics. These are, the Bar chart, Pie chart, Pictogram, Histogram and Line chart.

The need for the use of charts as instructional materials cannot be over emphasized. Economics as a subject is an applied subject and cannot be taught in abstract. The use of chart as instructional materials in teaching and learning of Economics will help the student to be more involved in the lesson and understand deeply what the teacher is teaching. It will also help the teacher to be well grounded in his/her knowledge of the topic and will be able to deliver it well. The use of charts in teaching and learning of Economics presents the reality of the economy of the country. As young economists, the students will then build a strong foundation on the concept of Economics and be able to live out what they have been taught

in the nearest future. Of course, this will affect the performance of the students positively due to the improvement in their understanding of the subject and effective teaching would have taken place.

In as much as charts are very necessary in the teaching and learning of Economics in the Bwari Area Council, FCT, Abuja, Economic teachers face some challenges in using them. Some Economic teachers do not see the need to use charts while teaching. Some others feel it consumes time as the teacher will have to explain the chart to the student's understanding. Other challenges could be laziness on the part of the teacher. Economic teachers are encouraged to make use of charts while teaching Economics. Teachers could also create their own charts with the data they have for teaching. They could also form a presentation exercise so that the class will not be boring.

As crucial as charts are, it has been discovered that a lack of them has put students' performance in secondary schools in jeopardy. Regardless, their presence in the classroom should not make them a master to the teacher, but rather a good servant who is used most effectively and efficiently to provide proper learning.

Statement of the Problem

There has been a poor performance in the general results of students in the Economics subject in Bwari Area Council, FCT-Abuja, over the years (Bwari Area Council WAEC Results Analysis reports from 2010-2020). This called for urgent measures to identify issues that may have posed challenges in the teaching and learning of Economics. Some key issues that affect the quality of Economics curriculum are; instructional media tools and teachers, amongst others. This was also observed by the researcher during the 2021 teaching practice exercise. Teaching materials cause students to perform unsatisfactorily. Although Economics is not a compulsory subject in the Nigerian Senior Secondary School curriculum. Its teaching has over time faced enhancement challenges. Bwari Area Council, FCT Abuja Senior Secondary Schools for example, have had their Economics score steadily plunge from 2010 to 2020 in the Senior Secondary School Certificate Examination in Economics.

This research study therefore examines the use of charts as instructional materials for effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja, Nigeria and to determine if the process can bring more life and improvement in the teaching and learning of Economics. The researchers hope that the findings of this study will be very beneficial to Economic students and teachers as it will improve the students' understanding level and the teachers' creativity.

Purpose of the Study

The research examined the use of charts as instructional materials for effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

Specifically, the study:

    i.   identify the different types of charts as instructional materials used in effective teaching and learning Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

    ii.   find out the benefits that the use of charts as instructional materials has in effective teaching and learning Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

    iii.   identify the challenges faced when using charts as instructional materials for effective teaching and learning Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

Research Question

The following research questions guided the study:

1. What are the different types of charts teachers and students use in effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja?
2. What are the benefits of the use of charts as instructional materials in effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja?
3. What are the challenges teachers and students face when using charts as instructional materials for effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja?

Hypotheses

$H0_1$: There is no significant difference between the views of teachers and students on types of charts as instructional materials for effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

$H0_2$: There is no significant difference between the views of teachers and students on the contributions that charts as instructional materials have on effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

$H0_3$: There is no significant difference between the views of teachers and students on the challenges teachers and students face when using charts as instructional materials for effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

Methodology

A descriptive research design was used for this study. This was due to the fact that the study involved gathering information from a sample of Economics teachers and students about their perceptions of the effectiveness of charts as instructional materials in the teaching and learning of Economics in secondary schools in the Bwari Area Council of the Federal Capital Territory of Abuja.

The population of this study is 15, 789 Economics teachers and students in all the twelve (12) public Senior Secondary Schools in Bwari Area Council FCT-Abuja. This comprised 15, 715 Economics students and 74 Economics teachers in public secondary schools within the Bwari Area Council of the FCT, Abuja.

The study used a sample of 100 respondents, which included 10 permanent Economics teachers and 90 SS2 Economics students. The researcher used simple random sampling technique to select

10 Economics teachers, 5 from Government Day Secondary School Bwari and 5 from Government Secondary School Kuduru. Furthermore, the researcher randomly selected 45 SS 2 Economics students from Government Day Secondary School Bwari and another 45 SS2 students from Government Secondary School Kuduru.

The basic instrument used for the study was a questionnaire. The researcher designed a questionnaire titled: The Use of Charts as Instructional Materials for Effective Teaching and Learning of Economics (TUCIMETLE). The TUCIMETLE was designed on a modified four-point Likert scale form to elicit responses from Economics teachers and students. The TUCIMETLE was subdivided into two sections—A and B. Section A comprised of items on personal data of the respondents. Section B is comprised of items related to the variables of the study. The total number of test items was twenty-one (21). The responses to items were structured using modified four-point Likert scale as Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) which was scored as 4, 3, 2 and 1 respectively with this rule: Mid-point on a scale

of 2.50, any score above 2.50 were considered as agree while scores below 2.50 were considered as disagree.

The face, content, and construct validity of the instrument was ascertained. To achieve face validity, the instrument was examined to ensure that items are adequately structured and arranged to gather data to reflect the research questions based on the scope of the study, by three experts, one expert of test and measurement, Department of Science Education; one from Economics Education, Department of Arts and Social Science Education, and the third expert from the Department of Economics, all from Veritas University, Abuja. To achieve content validity, the items in the questionnaire were formulated and developed to adequately measure the variables of the study. To achieve construct validity, the items were scrutinized by these experts and corrections and modifications to the various aspects of the instrument were made to ascertain the instrument as valid.

The researcher conducted a pilot study to test the reliability of the instrument. The questionnaire was administered to 5 teachers of Economics and 15 Economics students in Government Secondary School Kubwa who were part of the population but did not take part in the main study. After two weeks interval, the questionnaire was re-administered to the same group of Economics teachers and students, and the scores were obtained and calculated using Kuder Richardson's formula 20 (K-R$_{20}$). 0.82 co-efficient was gotten which was high enough to determine the instrument's reliability. In other words, the result showed 82% reliability of the research instrument.

Descriptive statistics – mean score and standard deviation were employed for analyses of the data and answering the research questions. Any of the questionnaire items that had a mean score greater than or equal to 2.50 was regarded as "Agree", while any means less than 2.50 were regarded as "Disagree" as the case may be. t-test was used to test all hypotheses at 0.05 level of significance. The t-test was used to compared the means of Economics teachers and students in order to determine whether there is statistical evidence that the means are significantly different. The decision rule for the rejection or acceptance of the null hypotheses was if P-value is equal to or greater than the level of significance, we accept the null hypotheses, but if P-value is less than the 0.05 level of significance, we reject the null hypotheses.

Results and Discussion

Research Question One: What are the different types of charts teachers and students use for effective teaching and learning of Economics?

To answer this question, frequency count (N), mean (X) and Standard Deviations (SD) reported in table 3 were used.

Table 1: Types of Charts Used for Effective Teaching and Learning of Economics.
(A): View of Economics Teachers Economics Teachers N=10

S/n	Statements	SA	A	D	SD	FX	X	SD	Decision
1.	Histogram	9	1	0	0	39	3.90	0.32	Strongly Agree
2.	Bar Chart	7	3	0	0	37	3.70	0.48	Strongly Agree
3.	Pie Chart	6	4	0	0	36	3.60	0.52	Strongly Agree
4.	Line Chart	4	6	0	0	37	3.40	0.52	Agree
5	Flow Charts	2	7	1	0	31	3.10	0.57	Agree
6.	Bubble Charts	1	8	1	0	30	3.00	0.47	Agree
7	Radar Charts	2	5	3	0	29	2.90	0.74	Agree

	Clustered Mean					3.37		Agree

(B): View of Economics students Economics Students N=90

S/n	Statements	SA	A	D	SD	FX	X	SD	Decision
1.	Histogram	66	24	0	0	336	3.73	0.44	Strongly Agree
2.	Bar Chart	77	13	0	0	347	3.85	0.35	Strongly Agree
3.	Pie Chart	74	16	0	0	344	3.82	0.38	Strongly Agree
4.	Line Chart	31	36	17	6	272	3.02	0.90	Agree
5	Flow Charts	4	7	58	21	174	1.93	0.70	Disagree
6.	Bubble Charts	1	8	56	25	165	1.83	0.62	Disagree
7	Radar Charts	4	8	49	29	167	1.85	0.76	Disagree
	Clustered Mean						**2.86**		**Agree**

From table 1 (A & B) obtained and presented above, both Economics teachers and students use the different types of charts in teaching and learning of Economics. These charts include: Histogram, Bar chart, Pie chart, Line chart, Flow charts, Bubble charts and Radar charts. The cluster means scores of Economics teachers and students are 3.37 and 2.86 respectively. The cluster mean scores of both Economics teachers and students are above cut-off mark of 2.50

Research Question Two: What are the benefits of the use of charts as instructional materials for effective teaching and learning of Economics?

Table 2: Benefits of the Use of Charts for Effective Teaching and Learning of Economics.
(A): View of Economic Teachers Economics Teachers N=10

S/n	Statements	SA	A	D	SD	FX	X	SD	Decision
8	Increased level of retention	9	1	0	0	39	3.90	0.32	Strongly Agree
9	Improved understanding of subject topics	3	7	0	0	33	3.30	0.48	Agree
10	Improved Academic teaching	3	7	0	0	33	3.30	0.48	Agree
11	Reveals information at a glance	6	3	1	0	35	3.50	0.71	Agree
12	Avoidance of repetition	7	3	0	0	37	3.70	0.48	Strongly Agree
13	Easy interpretation of data	8	2	0	0	38	3.80	0.42	Strongly Agree
14	Easy comparison between two or more classes of data	5	3	2	0	33	3.30	0.82	Agree
15	Helps to stimulate students' interest while teaching Economics	6	4	0	0	36	3.60	0.52	Strongly Agree
16	Makes teaching Economics more meaningful and real to the senses	7	3	0	0	37	3.70	0.48	Strongly Agree
17	Helps to clarify complex Economics concepts	7	3	0	0	37	3.70	0.48	Strongly Agree
	Clustered Mean						**3.58**		**Strongly Agree**

(B): View of Economics students Economics Students N=90

S/n	Statements	SA	A	D	SD	FX	X	SD	Decision
8	Increased level of retention among students	32	54	4	0	298	3.31	0.55	Agree
9	Improved understanding of subject topics	36	53	1	0	305	3.39	0.51	Agree
10	Improved Academic performance	44	36	10	0	304	3.38	0.68	Agree
11	Reveals information at a glance	31	44	14	1	285	3.17	0.72	Agree
12	Avoidance of repetition	35	48	3	4	294	3.27	0.73	Agree
13	Easy interpretation of data	42	42	5	1	305	3.89	0.65	Strongly Agree
14	Easy comparison between two or more classes of data	44	44	2	0	312	3.47	0.54	Agree
15	Helps to stimulate students' interest in learning Economics	42	44	4	0	308	3.42	0.58	Agree
16	Makes learning of Economics tasks more meaningful and real to the senses	40	47	2	1	306	3.40	0.59	Agree
17	Helps to clarify complex Economics concepts	30	54	6	0	294	3.27	0.58	Agree
	Clustered Mean						**3.40**		**Agree**

From table 2 (A & B) obtained and presented above, both Economics teachers and students are of the opinion that the following are the benefits in the use of charts as instructional materials for teachers and students in teaching and learning Economics: The increased level of retention among students, improved understanding of subject topic, improved academic performance, reveals information at a glance, avoidance of repetition, easy interpretation of data, easy comparison between two or more classes of data, helps to stimulate student's interest while teaching and learning Economics, makes teaching and learning of Economics more meaningful and real to senses and helps to clarify complex Economic concepts. The cluster means scores of Economics teachers and students are 3.58 and 3.40 respectively. The cluster mean scores of both Economics teachers and students are above cut-off mark of 2.50

Research Question Three: What are the challenges that teachers and students face when using charts as instructional materials for effective teaching and learning of Economics?

Table 3: Challenges of Charts for Effective Teaching and Learning of Economics.
(A): View of Economic teachers Economics Teachers N=10

S/n	Statements	SA	A	D	SD	FX	X	SD	Decision
18	Limited fund	9	1	0	0	39	3.90	0.32	Strongly Agree
19	Poor exposure to current materials such as charts	3	6	1	0	32	3.20	0.63	Agree
20	Low wages which hinder further educational programmes	1	9	0	0	31	3.10	0.32	Agree
21	Difficulty in obtaining already made charts	5	4	1	0	34	3.40	0.70	Agree

s/n		SA	A	D	SD	FX	X	SD	Decision
22	Inadequate skills and imagination to improvise materials such as charts	3	6	1	0	32	3.20	0.63	Agree
23	High cost of charts	6	3	1	0	35	3.50	0.71	Agree
24	Low wages which affect teachers' creativity in the use of charts to teach	9	1	0	0	39	3.90	0.32	Strongly Agree
	Clustered Mean						**3.46**		**Agree**

(B): View of Economics students Economics Students   N=90

s/n	Statements	SA	A	D	SD	FX	X	SD	Decision
18	Limited funds	20	48	21	1	267	2.97	0.71	Agree
19	Poor exposure to current materials such as charts	20	52	13	5	267	2.97	0.77	Agree
20	Difficulty in obtaining already made charts	23	56	9	2	277	3.11	0.66	Agree
21	Poor maintenance of charts	30	36	20	4	272	3.02	0.86	Agree
22	Inadequate skills and imagination to improvise materials such as charts	21	54	13	2	274	3.04	0.68	Agree
23	High cost of charts	15	31	42	2	239	2.65	0.78	Agree
24	Tendency for students to get distracted from the lesson	20	50	16	4	266	2.95	0.76	Agree
	Clustered Mean						**2.96**		**Agree**

From table 3 (A & B) obtained and presented above, both Economics teachers and students are of the opinion that the following are the challenges teachers and students face while using charts as instructional materials for effective teaching and learning of Economics: limited funds, poor exposure to current materials as charts, low wages which hinder further educational programmes, difficulty in obtaining already made charts, poor maintenance of charts, inadequate skills and imagination to improvise materials such as charts, high cost of charts, low wages which affect teachers' creativity in the use of charts to teach and the tendency for students to get distracted from the lesson. The cluster means scores of Economics teachers and students are 3.46 and 2.96 respectively. The cluster mean scores of both Economics teachers and students are above cut-off mark of 2.50

Test of Hypotheses
Three hypotheses were formulated and tested as follows:

Ho_1: There is no significant difference between the views of teachers and students on types of charts used as instructional materials for effective teaching and learning of Economics.

Table 4: t-test Analysis on the Views of Teachers and Students on the Types of Charts Used as Instructional Materials for Effective Teaching and Learning of Economics.

Group	N	X	SD	df	t-value	Sig.(P)	Decision
Teachers	10	3.37	0.52				
				98	39.00	.882	Accepted

Students	90	2.86	0.59				

Table 4 shows the t-test analysis on the views of teachers and students on the type of charts used as instructional materials for effective teaching and learning of Economics. Since P > 0.05, t 39.00 at df 98, the researcher retains the null hypothesis that states there is no significant difference between the views of teachers and students on types of charts used as instructional materials for effective teaching and learning of Economics. Based on the result, the researcher concludes that there is no significant difference between the views of teachers and students on types of charts used as instructional materials for effective teaching and learning of Economics.

Ho$_2$: There is no significant difference between the views of teachers and students on the benefits that the use of charts as instructional materials has on effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

Table 5: t-test Analysis on the Benefits that the Use of Charts as Instructional Materials has on Effective Teaching and Learning of Economics.

Group	N	X	SD	df	t-value	Sig.(P)	Decision
Teachers	10	3.58	0.52				
				98	24.22	.527	Accepted
Students	90	3.40	0.61				

Table 5 shows the t-test analysis on the views of teachers and students on the benefits that the use of charts as instructional materials has on effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja. Since P > 0.05, t 24.22 at df 98, the researcher retains the null hypothesis that states there is no significant difference between the views of teachers and students on the benefits that charts as instructional materials have on teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja. Based on the result, the researcher concludes that there is no significant difference between the views of teachers and students on the contributions that charts as instructional materials have on teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

Ho$_3$: There is no significant difference between the views of teachers and students on the challenges teachers and students face when using charts as instructional materials for teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

Table 6: t-test Analysis on the Challenges Teachers and Students face when Using Charts as Instructional Materials for Effective Teaching and Learning of Economics

Group	N	X	SD	df	t-value	Sig.(P)	Decision
Teachers	10	3.46	0.52				
				98	22.04	.542	Accepted
Students	90	2.96	0.74				

Table 6 shows the t-test analysis on the views of teachers and students on the challenges teachers and students face when using charts as instructional materials for effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja. Since P > 0.05, t 22.04 at df 98, the researcher retains the null hypothesis that states there is no significant difference between teachers and students on the challenges teachers and students face when using charts as instructional materials for teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja. Based on the result, the researcher concludes that there is no significant difference between the views of teachers and students on the challenges teachers and students face when using charts as instructional materials for teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja.

Discussion of Findings

The discussion of findings was carried out based on the research questions and hypotheses that guided the study.

The first findings of the study revealed that there are various types of charts used as instructional materials for effective teaching and learning of Economics namely: Histogram, bar; pie; line; flow; bubble and radar charts. The result of hypothesis one revealed that there is no significant difference between the views of teachers and students on types of charts used as instructional materials for effective teaching and learning of Economics, Kaku & Arthur (2020), that teachers and students use variety of charts in the teaching and learning of Economics. The study also found that majority of the Economics teachers and students agreed that instructional materials are useful in the teaching and learning of Economics.

The second findings of the study revealed that charts when used as instructional materials in effective teaching and learning of Economics; increases level of retention among students, improves understanding of Economics, improves academic performance, reveals information at a glance, aids in avoidance of repetition, makes interpretation of data easy, brings about easy comparison between two or more classes of data, helps to stimulate student's interest while teaching and learning Economics, makes teaching and learning of Economics more meaningful and real to senses and helps to clarify complex Economic concepts. The result of hypothesis two revealed that there is no significant difference between the views of teachers and students on the benefits that the use of charts as instructional materials has on effective teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja. This finding agrees with that of Kaku & Arthur (2020) that charts are useful in the teaching and learning of Economics. Furthermore, the finding confirms with that of Badmos, Agbeti and Umeh (2016) findings, that charts are important in teaching and learning Economics. It is also in line with Ikpesu and Appah (2021) that the teaching and learning of Economics is more understandable and meaningful when charts are used and that charts are important factors in teaching and effective teaching and learning of Economics cannot take place without the use of relevant charts. This finding is also in line with that of Kaku & Arthur (2020) that charts are useful in the teaching and learning of Economics. This finding also agrees with that of Nwike and Onyejebu (2013) that students taught with Economics with charts performed better than those taught without charts.

The third findings of the study revealed the challenges teachers and students face while using charts as instructional materials for effective teaching and learning of Economics as follows: limited funds, poor exposure to current materials as charts, difficulty in obtaining already made charts, poor maintenance of charts, inadequate skills and imagination to improvise materials such as charts, high cost of charts, and the tendency for students to get distracted from the lesson. The result of the hypothesis three revealed that there is no significant difference between the views of teachers and students on the challenges teachers and students face when using charts as instructional materials for teaching and learning of Economics in Senior Secondary Schools in Bwari Area Council, FCT-Abuja. This result agrees with that of Badmos,

Agbeti and Umeh (2016) that inadequate use of charts in most schools and majority of the teachers did not take cognizance of the importance derived from the use of charts while teaching.

Conclusion

From the findings of the study, the following could be drawn: Students interest in learning Economics is better stimulated when taught with charts as instructional materials. Students learn Economics better when taught with instructional materials such as charts and it helps to clarify complex Economic concepts and promotes better understanding. The strategy is good for teaching Economics as it helps portray real world experiences. The use of charts as instructional materials improves the academic performances of the students.

Recommendations

Based on the results and findings of this study, the following recommendations were made:

i. In order to enhance Senior Secondary School students' interest and academic achievement in Economics, Economics teachers should make use of the various types of charts we have in teaching and learning Economics.
ii. Seminars and workshops should be organized to develop Economics teachers' skills and knowledge of the use of charts as instructional materials.
iii. Government should make available, funds or resources for the Economics teachers to be able to purchase appropriate charts for the teaching and learning of Economics.

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