Provision and Effective Usage of Instructional Materials in Primary Schools in the Three Senatorial Zones of Niger State, Nigeria

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Abstract This study examines the provision and effective usage of Instructional Materials in Primary Schools in Niger State. The study was carried out in the three senatorial zones of Niger State. Descriptive survey designed was adopted for the study. Five null hypotheses were formulated to guide the study and tested at 0.05 level of significance. The sample of three hundred (120) Teachers including the Head-teachers was draw from the population through random sampling technique from the three senatorial zones using ten (10) primary schools from each Senatorial Zone of Bida, Minna/Suleja and Kontagora. The instrument Provision, Availability and Effective Use of Instructional Materials in Primary Schools (PAEUIMP) was used for data collection after been validated by three research experts and pilot test was conducted to ascertain its reliability. The reliability was obtained using Cronbach Alpha with index of 0.79.Simple percentage was used to analyzed the demographic data while Inferential statistics of t-test was used to test the five the research hypotheses formulated. The results revealed among others that instructional materials are not sufficiently available in all the Zones while male teachers use instructional materials more frequently than their female counterparts' and teachers qualification and teaching experience also do affect the usage of instructional materials. It is therefore recommended that government should intensify effort in the provision of more instructional materials to primary schools in the state, workshop should be organize for teachers on the effective use instructional materials and government should also supervise and monitor the fund allocated for the purchase of instructional materials.

Keywords: provision, availability, effective usage, instructional materials, primary school

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1. Introduction

Education is a key pillar of economic, political and social development. It helps in reducing poverty by improving the productive capacity of individuals and societies. This explains why governments, non -governmental organizations and donor agencies embraced Education for All (EFA) movement and took up the cause of providing basic education for all children, youth and adults. This initiative culminated from the world conference on EFA in Jomtien, Thailand in 1990 and the World Education Forum of April, 2000 in Dakar, Senegal which committed governments to achieve quality basic education for all by 2015 with a pledge from donor countries and institutions to provide resources [1]. This followed Global EFA 2000 Assessment which revealed that lack of qualified teachers and learning materials are hindering factors in primary schools [1].

Nigeria's education sector has been allocated much lower than the 26 percent of national budget recommended by the United Nations. The global organization recommended this budgetary benchmark to enable nations adequately cater for rising education demand. But in proposal presented to the Assembly, the administration of President Muhammadu Buhari allocated only 7.04% of the 8.6 trillion 2018 budget to education.

According to Dale [2], all teaching can greatly be improved by use of materials because they make teaching experiences memorable and when used intelligently promote the most effective kind of learning. According to [3], resources like textbooks are important determinants of pupil performances. Studies by Kalundo [4] and Marugu [5] both revealed that instructional resources have significant impact on academic performance. However, these studies have not documented on the efficiency in the use of instructional materials in schools particularly in public primary schools in Niger State and this raises a lot of concern as to whether instructional materials are available and efficiently used by both teachers and pupils.

This study therefore, sought to examine the efficiency in the use of instructional resources in public primary

schools in the three senatorial zones with a view to coming up with recommendations on how to address these problems, improve efficiency and hence enhance learning.

1.1. Statement of the Problem

Instructional materials which are educational inputs are very vital. They play a key role in the process of teaching and learning. According to Marugu [5] a modern education programme is impossible without appropriate instructional materials. Use of text books for example is unavoidable if effective teaching and learning has to take place. This is in agreement with the Ministry of Education (May 2003) which maintains that, international research study have demonstrated repeatedly that the availability of inadequate supplies of pupils textbooks, teachers and guide and supplementary reading books have a major impact on student performance. Other research findings such as Simiyu [6] have also shown the important role played by teaching/learning materials in the teaching and learning process. They enhance efficient learning, sustain students' attention and remove monotony of speech. These research findings have not documented on efficiency in the use of instructional resources and particularly in public primary schools in Niger State. Furthermore, the stagnating low performance in Niger State raises concern on the use of instructional materials despite the heavy investment on them. This study therefore sought to examine the application of instructional materials in public primary schools in three senatorial zones with a view to making recommendations on how this can be improved.

1.2. Purpose of the Study

The purpose of the study was to examine efficiency in the use of instructional materials in public primary schools in three senatorial zones of Niger State.

1.3. Objectives of the Study

I. To identify the application of instructional resources in public primary schools in Niger State.
2. To determine the use of instructional resources in public primary schools in Niger State.
3. To determine efficiency in the use of instructional resources in public primary schools in Niger State.
4. To come up with possible strategies of enhancing/improving efficiency in the use of instructional resources in public primary schools in Niger State.

1.4. Significance of the Study

The findings of this study will be useful in the following ways:
1. The study will provide data on the availability of instructional resources in public primary schools so that Ministry of Education policy - makers and educational planners can make future projections and recommendations.
2. The findings will shed more light to the Ministry of Education policy - makers and educational planners

on how efficiently the resources are used in public primary schools.
3. The findings of this study may enlighten the Quality Assurance and Standards Officers, head teachers, teachers and stakeholders on the possible strategies to improve efficiency in the use of instructional materials in the teaching and learning process.

1.5. Research Hypotheses

Ho_1: There is no significant difference between male and female teachers on the knowledge of Instructional materials

Ho_2: There is no significant difference in the mean and standard deviation scores of teachers' academic qualification and knowledge of Instructional Materials

Ho_3: There is no significant difference between responses of teachers according to zones and Availability of Instructional Materials.

Ho_4: There is no significant difference on the mean responses of teachers' year of teaching experience and usage use of Instructional Materials.

Ho_5: There is no significant difference in the mean response of teachers' qualification and usage of Instructional Materials.

1.6. Scope and Limitation of the Study

The study was confined to public primary schools in the three senatorial zones in Niger State which experience the problem of efficiency in the use of instructional resources.

1.7. Population of the Study

The population of this study consists of all the public primary schools in the three Senatorial Zones of Niger State.

1.8. Instruments for Data Collection

The study employed two (2) instruments; questionnaire and interview schedules for data collection. The questionnaire was used to collect data from teachers and pupils. The questionnaire was used because as Kiess and Bloomquist [7] observe, it offers considerable advantages in the administration. It presents an even stimulus potentiality to a large number of people simultaneously and provide the investigation with an easy accumulation of data.

Gay [9] maintains that questionnaires give respondents freedom to express their views or opinions and also to make suggestions. The interview schedule was used to gather data from head teachers.

1.9. Resource material Questionnaire for Teachers

The questionnaire was administered to the teachers because they are the implementers of the curriculum. They handle the teaching/learning process and hence come in direct contact with the instructional materials. As such, they are in a position to identify the challenges in the use of instructional resources and suggest possible remedies to the challenges. The questionnaire had two sections.

Section one had the background data of the teachers and their schools. Section two gathered data on the views of teachers on the availability, adequacy and use of resources in the teaching/learning process. It also examined the challenges and possible strategies to improve efficiency in the use of instructional resources.

Data Collection Procedure. At the sampled schools, the researchers introduced themselves to the head teachers, teachers and randomly selected ten (10) teachers from each school for the administration of the questionnaire which was carefully collected back from the respondents.

2. Method of Data Analysis

The data collected was compiled, organized, coded, analyzed and interpreted. Computation of simple percentage was used to analyze the demographic data and inferential statistics of t-test was used in the analysis of hypotheses.

2.1. Research Design

This study adopted descriptive survey design. According to Mugenda [8], descriptive survey design is the best method available in collecting original data. This kind of design is concerned with gathering facts and obtaining pertinent and precise information concerning the status of phenomena and where possible to draw valid general conclusion from the facts discovered.

2.2. Sample and Sampling Technique

Simple random technique was used to select ten (10) public primary schools from each zone of Bida, Minna/Suleja and Kontagora. This was sufficient because according to Mugenda [8], 10% of the target population is enough to be used for descriptive studies.

2.3. Piloting

Pilot study was conducted to establish the validity and reliability of research instruments. The instruments will be pre - tested to a selected sample of two (2) schools which was similar to the actual sample to be used in the study and will not be included in the actual study [9]. The procedure used in pre - testing the questionnaire will be the same as that which was used during the actual study.

2.4. Reliability of the Instruments

Reliability of the measurement concerns the degree to which a particular measuring procedure gives similar results over a number of repeated trials [9]. In this study, the test - retest method was used to estimate the degree to which the same results could be obtained with repeated measure of accuracy in the same concept in order to determine reliability of the instrument. Each of the two (2) pilot schools was visited twice. The developed questionnaire was administered then scored manually. The same Questionnaire was administered again to the same respondents after two weeks. The questionnaire responses were scored manually for the second time. A comparison of the answers obtained was made.

A Pearson's product moment formula for the test - retest was employed to compute correlation coefficient in order to establish the extent to which the contents of the questionnaire were consistent in eliciting the same responses every time the instrument was administered [10].

2.5. Validity of the Instruments

Validity is the ability of an instrument to measure what it is supposed to measure. Gay [7] noted that validity is the accuracy and meaningfulness of inference which are based on research results. For this study, the two competent educational evaluators assessed the relevance of the content used in the questionnaire developed. They examined the questionnaire individually and provided feedback to the researcher their correction and adjustments were incorporated in the final questionnaire

2.6. Presentation of Result

This chapter presents the analysis of the responses according to the research hypotheses formulated to guide the study.

2.7. Demographic Data

Zones were used for the study. Ndayako and Excellence Way primary school had the highest number of respondents with 9.9% and 13 respondents, while Kuyan Bana Primary school had the least number of respondents of 5 with 3.8%. Also, 3 zones were used with zone A with the highest number of respondents of 49 with 37.4%, while zone had the least Number of respondents of 39 with 29.8 %. Based on the responses of highest qualification, NCE holders were the highest respondents of 53 with 40.3%, while Grade 11 respondents were the least respondents of 2 with 1.5%. On the years of teaching experience, 45 respondents with 34.4% have teaching experience from1-5 years, 35 respondents with 26.7% have teaching experience from 6-10 years, 45 respondents with 34.4 % have teaching experience from 11-15 years and 6 respondents with 4.6% have teaching experience from 16 years and above. The table also reveal that 73 female respondents with 55.7% and 58 males with 44.3% were the total number of respondents according to gender.

Ho[1]: There is no significant difference between male and female teachers on the knowledge of Instructional materials

Table 1 reveal that the calculated t value of 1.342 is lesser than the critical t value of 1.90 at 0. 05 level of significance. Therefore the null hypothesis is accepted, while the alternate hypothesis of there is significant difference in the mean response of respondent according to gender on the Knowledge of Instructional Materials is rejected.

Table 1. t-test of the difference between the means of scores of gender and the knowledge of Instructional Materials

Gender	N	Df	X	Std. Dev.	Std. Error	t. Cal	t. Crit.	Decision
Male	57	129	27.1897	6.49820	.85326	1.342	1.960	Accepted
Female	73		26.0274	3.16655	.37062			

Table 2. ANOVA of teachers' academic qualification and knowledge of Instructional Materials

Sources of Variation	Sum of Squares	Df	Mean Squares	t-Cal	t- Crit.	Sig	Decision
Between Groups	112.901	4	28.225	1.162	1.960	.331	Accepted
Within Groups	3059.618	126	24.283				
Total	3172.519	130					

Table 3. Analysis of Variance (ANOVA) on the Mean responses of teachers according to zones on the availability of Instructional Materials

Sources of Variation	Sum of Squares	Df	Mean Squares	t-Cal.	t- Crit.	Sig.	Decision
Between Groups	9.841	2	4.921	.304	1.960	.738	Accepted
Within Groups	2068.464	128	16.160				
Total	2078.305	130					

Table 4. Analysis of Variance (ANOVA) on the Mean responses of teachers according to years of teaching experience on the usage of Instructional Materials

Sources of Variation	Sum of Squares	Df	Mean Squares	t-Cal.	t-Crit.	Sig	Decision
Between Groups	543.793	3	181.264	2.389	1.960	.072	Rejected
Within Groups	9637.856	127	75.889				
Total	10181.649	130					

Table 5. Analysis of Variance (ANOVA) on the Mean responses of teachers according to teachers' qualification on the usage of Instructional Materials

Sources of Variation	Sum of Squares	Df	Mean Squares	t- Cal.	t- Crit.	Sig	Decision
Between Groups	1420.535	4	355.134	5.107	1.960	001	Rejected
Within Groups	8761.114	126	69.533				
Total	10181.649	130					

Ho$_2$: There is no significant difference in the mean and standard deviation scores of teachers' academic qualification and knowledge of Instruction Materials

Table 2 reveal that the calculated t value of 1.62 is lesser than the critical t value of 1.96 at 0. 05 alpha level of significance. Therefore the null hypothesis is accepted, while the alternate hypothesis of there is significant difference in the mean response of respondent according to teachers' academic qualification on the Knowledge of Instructional Materials is rejected.

Ho3: There is no significant difference between responses of teachers according to zones and availability of Instructional Materials

Table 3 reveal that the calculated t value of 0.30 is lesser than the critical f value of 1.96 at 0. 05 alpha level the null hypothesis is accepted, while the alternate hypothesis of there is significant difference in the mean response of respondent according to zones on the Knowledge of Instructional materials is rejected.

Ho$_4$: There is no significant difference on the mean responses of teachers year of teaching experience and usage of Instructional Materials

Table 4 reveal that the calculated f value of 2.39 is greater than the critical t value of 1.96 at 0. 05 alpha level of significance, therefore the null hypothesis is rejected, while the alternate hypothesis of there is significant difference in the mean response of teachers according to years of teaching experience on the usage of IM in primary schools is accepted.

Ho$_5$: There is no significant difference in the mean response of teachers qualification and Usage of Instructional Materials

Table 5 reveal that the calculated t value of 5. 12 is greater than the critical t value of 1.96 at 0. 05 alpha level of significance the null hypothesis is therefore rejected, while the alternate hypothesis of there is significant difference in the mean response of respondent according to teachers' highest qualification on the usage of Instructional Materials.

3. Summary of the Findings

3.1. Hypothesis One

The analysis of the data collected revealed that there is no significant difference in the knowledge on the usage of instructional materials between male and female teachers in public primary schools in Niger State with the calculated t value of 1.342 is lesser than the critical t value of 1.90 at 0. 05 level of significance. Therefore the null hypothesis is retained, while the alternative hypothesis of there is significant difference in the mean response of respondent according to gender on the Knowledge of Instructional Materials is rejected. This shows that virtually all the teachers are aware of the importance of instructional materials in the teaching and learning process.

3.2. Hypothesis Two

The result of the data collected revealed that there is no significant difference in the mean and standard deviation scores on teachers qualification and their knowledge on the usage of instructional materials with the calculated t value of 1.62 is lesser than the critical t value of 1.96 at 0. 05 level of significance. Therefore the null hypothesis is retained, while the alternative hypothesis of there is significant difference in the mean response of respondent according to teachers' academic qualification on the Knowledge of Instructional materials is rejected. This means that teachers regardless of their academic qualification have the knowledge on how instructional materials can be used in teaching and learning process.

3.3. Hypothesis Three

The result of the study revealed that based on the responses of the teacher across the zones of Niger State the instructional materials are not adequately available in public primary schools with calculated t value of 0.30 is lesser than the critical t-value of 1.96 at 0. 05 level of significance. Therefore the null hypothesis is retained, while the alternate hypothesis of there is significant difference in the mean response of respondent according to zones on the Knowledge of Instructional materials is rejected. This means that the instructional materials provided in public primary schools are not adequate for effective learning.

3.4. Hypothesis Four

The analysis of data collected revealed that teacher's year of experience in teaching has a significant impact on usage of instructional materials to facilitate learning with calculated f value of 2.39 is greater than the critical t value of 1.96 at 0. 05level of significance, therefore the null hypothesis is rejected, while the alternate hypothesis of there is significant difference in the mean response of teachers according to years of teaching experience on the usage of Instructional Materials in primary schools is retained. This implies that teachers with more number of years of teaching experience are more frequent in the usage of instructional materials in their teaching process.

3.5. Hypothesis Five

The analysis of data collected revealed that teachers with higher qualification are more frequent in the usage of the instructional materials in their teaching with calculated t value of 5. 12 which is greater than the critical t value of 1.96 at 0. 05level of significance level and therefore the null hypothesis is therefore rejected, while the alternative hypothesis of there is significant difference in the mean response of respondent according to teachers' highest qualification on the usage of Instruction Materials is retained.

4. Conclusion

Based on the findings of the study, the following conclusions are made:

1. Not all the required instructional resources were available for use by both teachers and pupils in public primary schools.
2. Book to pupil ratio in public primary schools was not conforming to the current ratio of 1:1 per subject in each class. The ratio of mathematics books to the number of pupils is conforming while in Social Studies and Religious Education it is the contrast. This then calls for special attention.
3. In spite of the importance attached to use of a variety of instructional resource in the learning process, teachers in the zone did not conform to this. Chalkboard and textbooks were widely used. Other instructional resources like charts, maps, newspapers/magazine, audio materials (radio) and audio visual materials were not well -utilized.
4. Instructional resources in some schools are inadequate despite the fact that the government is investing heavily on them through free primary education funds. This compromises equity in access to resources by pupils. There is then need for the government to find out why.
5. The government is not vigilant in supervision, monitoring and evaluation of free primary education implementation and especially the procurement and use of instructional material.

5. Recommendations

Based on the findings of the study, the followings are recommended for provision and effective use of instructional materials in public primary schools in the State.

1. There is need to in - service head-teachers and teachers on the variety of teaching/learning resources available for use. There is also need to in - service teachers on cheap ways of availing instructional resources such as teaching/ learning aids.
2. There is need for the government to lay strategies which will guide schools in ensuring that the current ratio of books to pupils is achieved by all.
3. There is need for the government to in - service teachers on the importance and the frequent use of varied instructional resources in the teaching/learning process.
4. The government should induct/train the school instructional materials selection committee on the procurement procedures. This will enable them to identify the school needs and ensure that all the required resources are adequate.
5. There is then need for the government to strengthen supervision, monitoring and evaluation processes to ensure that funds allocated to instructional resources/ materials are utilized appropriately

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