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Attitude of Teachers toward Utilizing Community Resources in Physics in Abuja, Nigeria

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Abstract
The study was carried out in Abuja, Nigeria. The research sample consisted of 250 physics teachers that were drawn from 150 selected schools in the 6 area councils in Abuja. One research hypothesis was formulated and tested. Answers were provided for two research questions in the study. The result showed that there was a significant difference between the attitude of qualified physic teachers and unqualified physics teachers toward the use of community resources in teaching. The calculated chi-square was 7.71 and the critical chi-square obtained from the statistical table was 3.84.Based on the result , one of the recommendations made was: Teachers training institutions (colleges, Polytechnics, National teachers institute and Nigerian Universities) should give training teachers appropriate training in the use of community resources in teaching so as to cater for inadequacies observed in the area of attitude as qualified physics teachers.

Introduction

Background to the problem

Educational technology is a subset of the field of education which is concerned with effective communication and instruction. The Association for Educational Communications and Technology (AECT, 2008) defined educational technology thus:

Educational technology is the study and ethical practices of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources (p.1).

Educational technology can be seen as hardware (i.e physical equipment directly involved in performing technologic al functions), software (i.e the various kinds of programs used to operate hardware) and system approach which is a step by step approach used in the classroom setting to achieve set goals (Etim, 2006). Educational technology includes other systems used in the process of developing human capability; these systems also include community resources. According to Abolade (1997), Community resources are both human and non-human materials that are within the geographical milieu of teachers and the learners. Examples of community resources are Religious institutions such as Churches, mosques and shrines, commercial banks, historical places (e.g. museum, Zoo), industrial sites etc. These are places that students can visit and see for themselves those things they have learned in textbooks. Human community resources include teachers, learners, curriculum developers, parents and relevant others in the society. Non-human resources include instructional materials (audio, visual and audio-visual) equipment and facilities.

Omosewo (1999) defined Physics as the branch of science that deals with energy and matter, and their interactions. It is sometimes referred to as the science of measurement and its knowledge has contributed greatly to the production of instrument and devices of tremendous benefit to the human race. The importance of physics cannot be over stressed as it forms the basis for technological advancement of any nation. Its study can lead to several scientific fields and profession such as engineering, manufacturing, mining and construction industries. Within the context of science education, physics has been identified as a very important school subject and its importance in scientific and technological development of any nation has been widely reported.

Statement of the problem

Boyo, (2004) carried out a research on identified problems Associated with studying of physics in Lagos State, Nigeria. The result of the findings shows that most of the challenges faced in studying of physics are non-availability of facilities for teaching, lack of classrooms, textbooks, journals and overpopulation of students.

Also, Omosewo & Salami, (2002) found inadequate number of physics teachers in the senior secondary schools in Kwara State as one of the problem facing study of physics in Nigeria.

Studies connected to the use of community resource in Nigeria and teachers' attitude on their use have been conducted on geography and social studies (Anikweze 1995, Taiwo, 2000, Yusuf, 2004). If the community resources are properly integrated in physics teaching and learning, this may reduce the problem of infrastructural and material provision in schools.

It is therefore important to examine teachers' attitude toward community resources, the influence of teachers experience and qualification on their attitude toward utilization of community resources, and the effect of environmental factors on the utilization of community resources in physics instruction.

Purpose of the study

The primary purpose of this study is to determine the attitude of teachers' towards utilization of community resources for teaching physics in senior secondary schools in Abuja.

Specifically this study is designed to:

(i) find out the attitude of teachers toward the use of community resources in teaching physics;

(ii) find out the influence of teachers qualifications on their attitude towards the use of community resources;

Research Questions

Answers were provided for in the following research questions in the study:

(i) what is the attitude of teachers toward the use of community resources in teaching physics?

(ii) do teachers' qualifications influence their attitude towards utilization of community resources in teaching physics?

Research Hypothesis

One research hypothesis was formulated and tested,

HO1. There is no significant difference between the attitudes of qualified physics teacher and unqualified physics teacher towards utilization of community resources in teaching.

Scope of the study

The study was carried out in Abuja, Nigeria. The research sample consisted of 250 physics teachers that were drawn from 150 selected schools in the 6 area councils in Abuja.

Clarification of Major Terms and Variables

The following terms and variables are defined as they relate to this study.

Attitude: it refers to the teachers' disposition (positive or negative) towards the utilization of community resources.

Experienced Teacher: Is a teacher who has been teaching physics in the secondary school (s) for five or more years. With teaching qualification(s)

Less experienced Teacher: Is a teacher who has been teaching physics in secondary schools, for less than five years

Qualified Teacher: this is a physics teacher trained to teach physics with a minimum degree level B.ED, B. Sc. (Ed.) in physics, NCE + B.sc in physics, B.sc + PGDE, B.Tech + PGDE in physics.

Unqualified Teachers: this is a physics teacher without the requisite teaching qualification, specifically in physics, but who is engaged to teach the subject in secondary schools. These include teacher with NCE, OND, HND, and B.Sc. B.A. B.A.Ed/B.sc, B.Tech in subject other than physics.

Utilization: this refers to physics teachers' use of community resources in the teaching of physics.

Community Resources: In this study are both the human and non-human resources that are within the environment of both the teacher and the learners that are utilized to facilitate learning.

Significance of the study

The findings of this study would be relevant to classroom teachers, curriculum planners, teachers' trainers, school administrator, government agencies, authors, researchers, and so on.

Research Type

This study was a descriptive research, using the survey method. A descriptive survey investigates a phenomenon and reports on it as it is. The researcher designed questionnaire was used to illicit responses from the study sample.

Sample and Sampling Techniques

The target population of this study consisted of all secondary school physics teachers in Abuja. 250 physics teachers were randomly selected from the 6 area councils in Abuja.

Research Instrument

A researcher-designed instrument title "Questionnaire on physics teachers' Attitude towards utilization of

community resources" was used in this study. The sample for this study comprised 250 physics teachers in selected Secondary Schools in Abuja.

Validation of the Instrument

The draft questionnaire was given to physics educators, physics and educational technology lecturers in the department of science education, University of Ilorin as well as four physics teachers each in five public and private Secondary Schools in Abuja environs. The evaluators adjudged the instrument adequately when they considered the topic of the research.

Procedure for Data Collection

The researchers were accompanied by two research assistants to personally administer the questionnaire in all the Secondary Schools in Abuja. Each respondent was given a copy of the questionnaire and the opportunity to clarify the contents on the questionnaire. Having responded to the items therein, they were collected immediately and this enhanced 100% retrieval of the questionnaires.

Data Analysis Technique

Descriptive statistical method was employed in collecting and analyzing data generated by finding the percentage. Chi-square analytical tool was employed to determine levels of difference between the sub-groups of respondents.

Data Analysis and Results

The analysis was based on the research questions and the hypotheses stated in the study.

Research question 1 was addressed using frequency count and percentages and research question 2 and 3 were addressed through hypotheses 1 and 2 using chi-square analytical tool.

Research Question 1: What is the attitude of teachers toward the use of community resources in teaching physics?

Table 1: Number and percentages of physics teachers' attitude toward the use of community resources in teaching

S/No	Items	SA	A	D	SD
1	The use of human community resources will make me improve as physics teacher	115(46%)	135(54%)	0(0%)	0(0%)
2	I am versatile in the handling of non-human community resources	100(40%)	130(52%)	20(8%)	0(0%)
3	The use of community resources while teaching is time consuming	15(6%)	35(14%)	100(40%)	100(40%)
4	The use of non-human community resources is expensive	60(24%)	45(18%)	100(40%)	45(18%)
5	The use of community resources ease students' learning and comprehension	135(54%)	115(46%)	0(0%)	0(0%)
6	The students' interest were arouse and retain throughout the session of learning using available community resources	120(48%)	125(50%)	5(2%)	0(0%)
7	Non-human community resources compliment teaching learning process	95(38%)	140(56%)	10(4%)	5(2%)
8	The use of guess speaker motive students in learning	130(52%)	115(46%)	5(2%)	0(0%)
9	The use of the available community resources is creative, innovative, dynamic and resourceful	140(56%)	100(40%)	10(4%)	0(0%)
10	The use of community resources enhances effective learning "videreestcredere is a latin maxim which means seeing is believing	120(48%)	130(62%)	0(0%)	0(0%)
11	The use of community resource does not give room for individual differences and individual learning rate it might not benefit all the learners	10(4%)	15(6%)	95(38%)	130(52%)
12	The use of community resources enriched both the teacher and students	130(52%)	115(46%)	5(2%)	0(0%)

13	The use of non human community resources e.g excursion is risky	10(4%)	50(20%)	150(60%)	40(16%)
14	Inculcating the use of human community resources into teaching learning process is time wasting	0(0%)	45(18%)	85(34%)	120(48%)
15	Applying the available community resources in teaching is stressful and strenuous	0(0%)	65(26%)	130(52%)	55(22%)
16	The use of community resources is bottleneck and logistic in it planning	30(12%)	90(36%)	90(36%)	40(16%)
17	Field trip gives room for dynamism in students learning a concept	140(56%)	110(44%)	0(0%)	0(0%)
18	Field trip gives room for dynamism in students learning a concept	165(66%)	85(34%)	0(0%)	0(0%)
19	The use of community resources facilitate learning by learners and makes teacher more efficient	135(54%)	115(46%)	0(0%)	0(0%)
20	The use of community resources increases both teachers' and students' wealth of experience	140(56%)	110(44%)	0(0%)	0(0%)

From table 1, it shows that out of 100% responses, 73.20% responses showed a positive attitude toward the use of community resources in teaching physics while 26.80% responses showed negative attitude toward use of community resources in teaching physics.

Research question 2: Do teachers' qualification influence their attitude toward utilization of community resources in teaching physics?

The results revealed that, out of 110 qualified physics teachers 80(72.72%) responded positively toward the use of community resources in teaching physics while 30(27.27%) responded negatively to the use. Also, out of 140 unqualified physics teachers 102(72.86%) responded positively toward utilization of community resources in teaching physics while 38(27.14%) responded negatively.

Hypothesis 1 (HO1): There is no significant difference between the attitude of qualified and unqualified physics teachers toward utilization of community resources in teaching.

The result in relation to HO1 is as shown in table 2

Table 2: chi-square analysis of the attitude of qualified and unqualified physics teachers

Qualifications	No	+ve	-ve	Cal X^2	Df	critical value
Qualified	110	80	30	7.71	1	3.84
Unqualified	140	102	38			

Significant at 0.05 levels

The result as indicated showed that there was a significant difference between the attitude of qualified physic teachers and unqualified physics teachers toward the use of community resource in teaching. The calculated chi-square was 7.71 and the critical chi-square obtained from the statistical table was 3.84. Thus the null hypothesis HO1 was rejected since the calculated chi-square was greater than the critical chi-square (7.71>3.84). Therefore, there is a significant difference between the attitude of qualified and unqualified teachers toward utilization of community resources in teaching phys

Conclusion

Physics teachers showed a positive attitude toward the use of community resources in teaching and there was a significant difference between the attitude of qualified and unqualified physics teachers toward the use of community resources in teaching with higher attitude score by the unqualified physics teachers.

Recommendations

1. Physics teachers should not relent in the use of his/her immediate environment to teach as it contains a lot of resources for effective teaching of concepts in the subject.

2. Teachers training institutions (colleges, Polythenics, National teachers institute and Nigerian Universities) should give training teachers appropriate training in the use of community resources in teaching so as to cater for inadequacies observed in the area of attitude as a qualified physics teachers.
3. School authority particularly school administration should encourage teachers to use community resources through financial support, appropriate scheduling of standard time table and organization of regular staff development programme to promote teacher efficiency.

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