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AVAILABILITY AND UTILIZATION OF INSTRUCTIONAL MATERIALS IN NURSING TRAINING INSTITUTIONS IN ANAMBRA STATE

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ABSTRACT

This descriptive survey research assessed the availability and utilization of instructional materials in nursing training institutions in Anambra State. A sample size of 298 students and 50 teachers were randomly selected from four Nursing schools in Anambra State. Self-structured questionnaire was used for data collection. Inferential statistics was applied in testing the null hypotheses at 0.05 level of significant. Results revealed that student nurses and Teachers believed that instructional materials-Audio/Visual equipment (59.7% of students, 64.0% of teachers); Power point presentation (74.7% students, 58.0% teachers); Anatomical Models (98.0% Students, 80.2% Teachers); Medical Instruments (99.7% students, 96.0% teachers); Good demonstration rooms (95.7% students,86.0% teachers) were available in nursing training institutions in Anambra State. 73.6% Students and 74.0% Teachers indicated that these materials were often utilized by Tutors. Private/mission owned schools make more available (80.2% the students and 54.0% teachers) and utilize more (82.8% students, 62.0% teachers) instructional materials than the government owned schools. Significance difference (P <0.05) exists in the availability and utilization of instructional materials between university-based and hospital-based nursing schools as well as between private/mission-owned and government-owned schools. There is positive relationship (Rho= 0.603, P < 0.000) between availability and utilization of instructional materials in nursing training. The study concluded that instructional materials were adequately available and often utilized by Tutors in nursing schools. The researchers recommended that incentives should be given to Nurse Educators who utilize instructional materials in other to encourage them.

Contribution/Originality: Considering the relevance of instructional materials in teaching-learning, it is necessary to know the availability and actual use of instructional materials in nursing schools. Although some studies have been done on the effects of availability/utilization of instructional materials in nursing training in some states of Nigeria, but to the best of the researcher's knowledge, no completed work has been carried out on this topic in Anambra State. There were also varying perceived views which were equivocal across studies. This further underscores a need for further investigation in this area. It is intended to provide scientific evidence on what actually obtains in different Nursing schools regarding the availability/utilization of instructional materials.

1. INTRODUCTION

Education is a light which shows the right direction for mankind to follow [1]. The purpose of education is not only making a student literate but also to have rational thinking, knowledge and self-sufficiency [1]. Therefore, the training of a professional nurse that is able to respond to the nursing market needs relates directly to the quality of education in nursing training institutions. Nursing education needs to evolve by moving away from the traditional passive lecture style to incorporating new techniques that connect nursing education theory to practice [2]. This may be achieved by proficient use of teaching strategies and instructional materials in the teachinglearning process. Instructional materials help students to achieve superior academic results and equally grow both socially and personally (Renate and Andreas in Haddad, et al. [3]).

Students want the content of their program to mirror professional practice, and conveyed in a way that makes it captivating, memorable, interesting enough and useful to them in a practical situation [2]. Learning can be reinforced, made interesting and memorable for learners with the use of instructional materials [4]. Nursing Students will learn better when most of their senses are captivated through the utilization of instructional materials in the teaching learning process [3]. Again, for teaching and learning activities to be effective and purposeful, the teacher has to make use of the appropriate instructional materials [5].

Instructional materials allow the students to interact with words, symbols and ideas in ways that develop their abilities in reading, listening, solving problems, viewing, thinking, speaking, writing, using media and technology [6]. Instructional materials are tangible substances and real objects that provide the audio and/or visual component necessary for learning [4]. They include prints, textbooks, pictures, electronic media, boards, charts, graphs, diagrams, exhibits, manikins, pictures, photographs, maps, models, objects, computer, and others [5, 7]. They stimulate a learner's senses and may have the power to arouse emotions [4, 6]. They are capable of conveying the intended message to the recipient as they received it, understand and apply the experience gained to real life situations [8].

Despite the benefits of instructional materials in teaching-learning activities, most schools in Nigeria including schools that run nursing programme were hardly and properly equipped with instructional materials for teaching-learning activities [9]. Nursing as a science course cannot be taught effectively without appropriate utilization of relevant instructional materials, yet teachers in nursing training institutions seem not to utilize instructional materials and when they do, appropriate use becomes issue of concern [3].

The major challenges facing higher educational institutions around the world are how to achieve quality outcomes for students in an increasingly globalised and competitive environment [10]. Education for health professionals have been criticized for not producing graduates with adequate and relevant skills [10]. The educational institutions in Anambra State may not be left out in this challenge especially, at this time when many people have exceptional desire to take up nursing as career choice of study. As a result of this, the admission of more students tends to proliferate without commensurate provision of adequate infrastructure and instructional materials. In such situation many logistical problems are encountered Rafi [11]. Haddad, et al. [3] recommends that the management of all schools should ensure the availability and monitoring of the utilization of the available instructional materials.

The difference in ownership as well as fund available to the proprietor may affect the provision of instructional materials needed for effective teaching and learning. According to Okongo, et al. [12], it is the responsibility of the proprietor to ensure that all facilities and instructional resources are efficiently and effectively utilized so as to achieve educational goals and improve learning outcomes. Type of nursing training institution, whether hospital-based or university-based nursing institution may determine the availability and utilization of instructional materials. According to Meenakshi, et al. [13], educational institutions in the developed countries offer students a positive learning environment which includes the use of technology and instructional materials in the classroom and a quality library thus giving students an edge in mastering their subjects. On the contrary, nursing education in

Nigeria seem to be experiencing problems such a lack of management resources, scarcity in nursing scholars, poor professional development, lack of instructional materials, poor supervision by mentors and seniors and low support for self-directed learning [14]. This may have reflected in unacceptably high rate of failures and elimination of candidates at the Nursing and Midwifery Council of Nigeria's final qualifying examinations particularly in the General Nursing qualifying examinations. For instance, in Anambra State, 71 candidates were eliminated between 2007 and 2016 [15].

Could the increasing failure of students in the Nursing and Midwifery Council of Nigeria (NMCN) final qualifying examinations be attributed to the non-availability or inadequate utilization of instructional materials or any other unidentified problem? Literature has noted less research relating to availability and utilization of instructional materials in nursing education [3]. However, to improve on teaching-learning process in nursing education, it is necessary to know the availability and actual use of instructional materials in nursing schools [4]. It is in consideration of the above that the researchers decided to embark on this study to determine the availability and utilization of instructional materials in nursing training institutions in Anambra State, Nigeria.

1.1. Objectives of the Study

- 1. To determine availability of instructional materials in nursing training institutions in Anambra State.
- 2. To determine the utilization of instructional materials for teaching/learning activities nursing training institutions in Anambra State.

1.2. Hypotheses

- 1. There is no significant relationship between the availability and utilization of instructional materials for teaching/learning activities in nursing training institutions in Anambra State.
- 2. There is no significant relationship in the utilization of instructional materials in across different types of nursing training institutions in Anambra State.

2. MATERIALS AND METHODS

A descriptive cross sectional survey research design was used to assess the availability and utilization of instructional materials in teaching-learning in nursing training institutions in Anambra State.

Population for the study was made up of three randomly selected Schools of Nursing and one Department of Nursing Science in Anambra State. Information from the Heads of the institutions showed that a total 70 teachers and 1,176 nursing students were into teaching-learning activities in the four institutions.

Only institutions that have enrolled their students for NMCN final qualifying examinations before the reference period were included in the study. Generic students in first year (100 Level) in the Department of nursing science and students in Preliminary Training Session (PTS) in schools of nursing were excluded from the study.

A sample of 298 students was drawn through Taro Yamane's formula for sample size calculation while 50 teachers were purposefully selected in line with the inclusion and exclusion criteria. Proportionate stratified random sampling technique was applied to ensure proper representation of the students regarding each institution's population. Data were generated for the study with two sets of self-structured questionnaire (one for the students and another for the teachers). The instrument was validated and pre-tested for internal consistency with Spearman Brown's correlation coefficient which yielded reliability index of 0.9.

Data for the study were generated through face to face administration to all participants in their individual schools on work days and at their preferred time. The administration of the instrument lasted for six (6) months.

Approval from the ethical committee in the Faculty of Health Sciences and Technology Nnamdi Azikiwe University Nnewi Campus was sought prior to the study. Approval /Reference number: NAU/FHST/2021/NSC20. Informed consent was obtained from the participants. Confidentiality and respect for

the respondents were maintained and participation was voluntary. Data generated were analyzed using descriptive and inferential statistics. Mann-Whitney U test, Spearman rank correlation and Kruskal-Wallis test were applied to test the hypotheses at 0.05 level of significant. Statistical package for social sciences software (SPSS) version 21 was used for the analysis.

3. RESULTS

Teacher	Gender	School	Frequency	Percentage
	Male		3	6.0
	Female		47	94.0
		SON Ihiala	14	28.0
		SON Nnewi	9	18.0
		DONSc Nnewi	13	26.0
		SON Nkpor	14	28.0
	Male		58	19.1
	Female		240	80.9
		SON Ihiala	89	19.4
		SON Nnewi	55	18.2
		DONSc Nnewi	106	36.6
		SON Nkpor	48	15.8

Table 1. Socio-demographic variables of the participants.

Table 1 showed that 6% of the Teachers were males while 94% were females whereas 19.1% of the Students were Males while 80.9% were Females. Only 28.0% of students and 19.4% of Teachers were from School of Nursing (SON) Ihiala. The SON Nnewi were represented by 18.0% of Students and 18.2% of Teachers. The greater number of the Students 36.6% and 26.0% of Teachers were from Nursing Department Nnewi. 15.8% of Students and 28.0% of Teachers represented SON Nkpor. The mean years of teaching experience of the teachers was 10.21±7.03 years.

Table 2. Availability of instructional materials in nursing training institutions in Anambra State.

Availability Item	Frequen	cy	(Percentage)				
Teachers							
Availability of instructional materials	Not Available (0%)	Few Available (< 50%)	Moderately available (50-69%)	Adequately Available (>70%)			
Audio/Visual equipment: TV, Tapes, Charts etc.	7(14.0)	11(22.0)	19(38.0)	13(26.0)			
Projectors for Power point presentation	4(8.0)	13(26.0)	16(32.0)	17(34.0)			
Anatomical Models	0(0.0)	2(4.0)	8(16.0)	40(80.0)			
Medical Instruments such as forceps, gallipots, and others	0(0.0)	2(4.0)	9(18.0)	39(78.0)			
Manikins	0(0.0)	8(16.0)	27(54.0)	15(30.0)			
Computers, internet facility	9(18.0)	23(46.0)	14(28.0)	4(8.0)			
Good demonstration room	0(0.0)	7(14.0)	16(32.0)	27(54.0)			
Students							
Availability of instructional materials	Not Available (0%)	Few Available (< 50%)	Moderately Available (50-69%)	Adequately Available (>70%)			
Audio/Visual equipment: TV, Tapes, Charts etc.	92(30.4)	117(38.6)	69(22.8)	25(8.3)			
Projectors for Power point presentation	107(35.3)	87(28.7)	55(18.2)	54(17.8)			
Anatomical Models	6(2.0)	54(17.8)	107(35.3)	136(44.9)			
Medical Instruments such as forceps, gallipots, and others	1(0.3)	16(5.3)	87(28.7)	197(65.0)			
Manikins	26(39.3)	52(34.6)	119(17.2)	105(8.6)			
Computers, internet facility	99(32.7)	76(25.1)	61(20.1)	65(21.6)			
Good demonstration room	13(4.3)	42(13.9)	110(36.3)	138(45.5)			

Table 2 showed that 26.0% of Teachers and 8.3% of Students indicated that Audio/Visual equipment: Television, Tapes, Charts etc were adequately available in nursing training institutions in Anambra State. Adequately availability of Projectors for Power point presentation was reported by 34.0 of Teachers and 17.8% of students. The majority of Teachers 80.0% rated Anatomical Models as adequately available while 35.3% reported moderate availability and 44.9% reported adequate availability. Adequately availability of Medical Instruments such as forceps, gallipots was claimed by 78.0% of Teachers and 65.0% of students. Good demonstration room was reported 54.0% of Teachers and 44.5% of students as adequately available.

Availability Item	Frequency		(Percentage)		
Teachers Utilization of instructional materials	Strongly Disagreed	Disagreed	Agreed	Strongly agreed	
Tutors are competent in utilizing instructional materials.	0(0.0)	3(6.0)	36(72.0)	11(22.0)	
Tutors always use relevant instructional materials while teaching.	0(0.0)	13(26.0)	32(64.0)	5(10.0)	
Tutors utilize appropriate instructional materials for illustration in teaching Nursing lessons.	2(4.0)	9(18.0)	20(40.0)	19(38.0)	
We have computer instructors that guide the students	8(16.0)	13(26.0)	23(46.0)	6(12.0)	
Tutors make use of the computers for teaching	10(20.0)	20(40.0)	12(24.0)	8(16.0)	
Utilization of instructional materials	Never used (0%	Very rarely (< 50%)	Rarely used(50-69%)	Very Often (>70%)	
Audio/Visual equipment such as TV, Tapes, Charts, and others	0(0.0)	11(22.0)	30(60.0)	9(18.0)	
Projectors for Power point presentation	8(16.0)	7(14.0)	18(36.0)	17(34.0)	
Anatomical Models	0(0.0)	8(16.0)	41(82.0)	1(2.0)	
Medical Instruments such as forceps, gallipots, and others	0(0.0)	1(2.0)	4(8.0)	45(90.0)	
Manikins	0(0.0)	6(12.0)	14(28.0)	30(60.0)	
Computers, internet facility	4(8.0)	12(24.0)	26(52.0)	8(16.0)	
Students					
Utilization of instructional materials	Strongly Disagreed	Disagreed	Agreed	Strongly agreed	
Our Tutors are competent in utilizing instructional materials.	7(2.3)	30(9.9)	156(51.5)	109(36.0)	
Our Tutors always use relevant instructional materials while teaching.	8(2.6)	72(23.8)	130(42.9)	93(30.7)	
Our Tutors utilize appropriate instructional materials for illustration in teaching Nursing lessons.	20(6.9)	73(24.1)	115(38.0)	95(31.4)	
We have computer instructors that guide the students	129(42.6)	81(26.7)	52(17.2)	41(13.5)	
Our Tutors make use of the computers for teaching	130(42.9)	83(27.4)	66(21.8)	24(7.9)	
Utilization of instructional materials	Never used (0%	Very rarely (< 50%)	Rarely used (50-69%)	Very Often used (>70%)	
Audio/Visual equipment such as TV, Tapes, Charts, and others	78(25.7)	82(27.1)	109(36.0)	34(11.2)	
Projectors for Power point presentation	73(24.1)	68(22.4)	106(35.0)	56(18.5)	
Anatomical Models	5(1.7)	32(10.6)	114(37.6)	152(50.2)	
Medical Instruments such as forceps, gallipots, and others	2(0.7)	10(3.3)	69(22.8)	222(73.3)	
Manikins	28(50.5)	36(11.9)	84(27.7)	153(9.2)	
Computers, internet facility	129(42.6)	68(22.4)	52(17.2)	54(17.8)	

Table 3. Utilization of instructional materials for teaching/learning activities.

Table 3 revealed that 51.5% of Teachers simply agreed 36.0% strongly agreed and 42.9% of students simply agreed, 30.7% strongly agreed that Tutors are competent in utilizing instructional materials. 64.0% of Teachers 42.9% of students simply agreed while 10.0% of Teachers and 30.7% of students strongly agreed that Tutors always use relevant instructional materials.

Variables	Category	Mean rank	U/K	Р		
Availability as rated by teachers						
Type of Institution	University-based	35.85	106.00	< 0.01*		
	Hospital-based	21.86				
Availability as rated by students						
Type of Institution	University-based	83.65	3069.50	< 0.01*		

Table 4. Mann-Whitney U test analysis of the differences in availability of instructional materials in

Note: ' Correlation is significant at the 0.01 level (2-tailed).

The results of the Mann-Whitney U test in Table 4 revealed that the difference in the availability of instructional materials between university- and hospital-based nursing institutions in Anambra State as reported by the teachers showed U/K = 106.00, p value = <0.01 and Students showed U/K = 3069.50, P<0.01.

nursing training across different types of institutions.							
Variable	Category	Mean rank	U/K	Р			
Utilization as rated by teachers							
Type of Institution	University-based	33.65	134.50	0.02			
	Hospital-based	22.64					
Utilization as rated by stude	nts						
Type of Institution	University-based	90.90	3874.00	< 0.01			
	Hospital-based	125.39					

Table 5. Mann-Whitney U test analysis of the differences in utilization of instructional materials in

The results of the Mann-Whitney U test in Table 5 revealed that the difference in the utilization of instructional materials between university- and hospital-based nursing institutions in Anambra State as reported by the teachers and students showed U/K = 134.50, p value = <0.02. and U/K = 3874.00, p value = <0.01 respectively.

Table 6. Spearman rank correlation assessing the relationship between availability and utilization of instructional materials in nursing training institutions (Ho 3). **Students Correlations**

Relationship betwee	en availability and utiliza	Total availability	Total utilization	
Spearman's rho	Total_availability	Correlation Coefficient	1.000	0.693^{**}
-		Sig. (2-tailed)		0.000
		N	298	298
	Total_utilization	Correlation Coefficient	0.693**	1.000
		Sig. (2-tailed)	0.000	
		N	298	298
Teachers Corre	lations			
Relationship between	availability and utilizatio	n of instructional materials	Total_availability	Total_utilization
Spearman's rho	Total_availability	Correlation Coefficient	1.000	0.780**
		Sig. (2-tailed)		0.000
		N	50	50
	Total_utilization	Correlation Coefficient	0.780**	1.000
		Sig. (2-tailed)	0.000	
		N	50	50

Note: **. Correlation is significant at the 0.01 level (2-tailed).

Spearman rank correlation test in Table 6 showed the relationship between availability and utilization of instructional materials in nursing training institutions in Anambra State as reported by the Students revealed Rho 0.693 (0.000) for availability and 0.693 (0.000) for utilization.

Spearman rank correlation test in Table 6 showed the relationship between availability and utilization of instructional materials in nursing training institutions in Anambra State as reported by the teachers revealed Rho for availability is 0.780 (0.000), utilization is 0.780 (0.000).

Table 7. Students and teachers correlation on availability of instructional materials in nursing

training institutions with different ownerships.						
Variables	Category	Mean rank	U/K	Р		
Availability as rated by teachers						
Ownership	Mission/private	34.50	17.67	< 0.01		
	Federal	28.11				
	Nkpor/State	12.39				
Availability as rated by students						
Ownership	Mission/private	206.33	17.67	< 0.01		
	Federal	114.09				
	Nkpor/State	182.38				

Table 7 presents Kruskal-Wallis test difference in the availability of instructional materials among privatelyowned and government-owned training institutions as reported by the teachers (U/K=17.67, p<0.01) and the Students (U/K = 71.46, p<0.01).

Table 8. Kruskal-Wallis test assessing the differences in utilization of instructional materials in nursing training institutions with different ownerships as reported by both the students and their teachers

Variables	Category	Mean rank	U/K	Р	
Availability as rated by teachers					
Ownership	Mission/private	29.29	11.45	< 0.01	
	Federal	30.16			
	Nkpor/State	14.39			
Availability as rated by students					
Ownership	Mission/private	198.57	48.43	< 0.01	
	Federal	121.19			
	Nkpor/State	172.21			

Kruskal-Wallis test in Table 8 showed that the difference in the utilization of instructional materials among privately-owned and government-owned training institutions in Anambra State is (U/K= 11.45, p<0.01) for the teachers and (U/K = 48.43, p<0.01) for the students.

4. DISCUSSION

The majority of the Teachers 94% were females. The mean years of teaching experience of the teachers was 10.21 ± 7.03 years. The greater number of the Nursing teachers 54.0% were Nurse Educators with BSc. and MSc. in Nursing Science.

Fifty nine percent of the students and 64.0% of teachers indicated that Audio/Visual equipment: TV, Tapes, Charts were available in nursing training institutions in Anambra State. The study also revealed that 74.7% of the students indicated that projectors for power point projection are available and 58.0% of the teachers affirmed to this. Regarding the availability of anatomical models, 98.0.0% of the students and 80.2% of teacher agreed that they were available. Availability of good demonstration room was reported by 95.7% of the Students and 86.0% of the Teachers Table 2. The findings of this study agree with the findings of Haddad, et al. [3]; Uzuegbu, et al. [7].

Study also revealed that majority of the students and teachers (87.5% and 94.0% respectively) believe that Tutors are competent in utilizing instructional materials. Greater number of the students and teachers (73.6% and 74.0% respectively), reported constant use of relevant instructional materials while teaching Table 3. This is in line with Mesue [42]. Al-Hariri and Al-Hattami [16] demonstrated that the most-used devices were laptops (50%) and phones (42%) followed by tablets (7%) and desktop computers (0.5%). However, this did does not align with Haddad, et al. [3] and Bukoye [6].

The results of the Kruskal-Wallis test showed that there is significant difference in the availability and utilization of instructional materials among private/mission-owned and government-owned nursing training institutions in Anambra State as evidenced in teachers availability(U/K=17.67; p<0.01) and students availability U/K = 71.46, p<0.01). Bukoye [6] had related result in his study where private owned schools also made effective utilization of the available instructional materials for teaching and learning but against [4] who found more teachers, (53.9%) in government nursing schools than in private schools (46.1%) using instructional materials with barriers such as: expensive to own, expertise skills required, lack of time and difficult to produce, that impede their use and affect attitudes towards their use. Mann-Whitney U test revealed that there is a significant difference in the availability of instructional materials between university-based and hospital-based nursing institutions in Anambra State (U/K = 106.00, p value =<0.01; UK = 3069.50, P<0.01) for teachers and students respectively.

Mann-Whitney U test also revealed that there is a significant difference in the utilization of instructional materials between university- based and hospital-based nursing institutions in Anambra State as evidenced in both teachers and students values (U/K =134.50, p value =<0.02; U/K=3874.00, p value =<0.01) respectively.

5. CONCLUSION

From the study, nursing training institutions in Anambra State have instructional materials and relatively utilize them in teaching-learning activities but privately owned institutions have more available materials with better utilization than the government owned institutions. This disparity in utilization may be related to policy implementation that is synonymous with private establishment. The researchers concluded that having instructional materials without utilizing them as observed in government owned institutions drastically affect the teaching-learning activities in such institutions.

6. RECOMMENDATIONS

Government owned schools and university-based schools should make available and ensure appropriate utilization of relevant instructional materials during teaching-learning experience. Workshop and seminar should be organized from time to time for teachers for improving their skills of using instructional material effectively to the needs of students.

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