

Barriers to Effective Utilisation of Audio-Visual Materials in Teaching-Learning Activities Among Nurse Educators in Nursing Training Institutions in Anambra State

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Abstract: *This study investigated the barriers to the effective utilisation of audio-visual materials among nurse educators in nursing training institutions in Anambra State. Adopting a cross-sectional descriptive survey design, data were collected from 103 respondent selected by census method using validated self-administered questionnaires with Cronbach alpha 0.85 and 0.89. Data analysis with SPSS version 27 revealed 56.3% registered nurse educator and 43.7% non-registered nurse educator as respondent. Finding shows that inadequate infrastructure/power supply and limited time for teaching are significant barriers to the effective utilisation of audio-visuals. High utilisation rates for charts, models, pictures, and posters were discovered among the nurse educators in Anambra State. Also, there was no statistically significant difference in the level of use of audio-visual resources (AVR) by the educators across the different years of teaching experience. Hence, it is recommended that nurse educators be trained on the use of audio visuals, training institutions gives support to the use of audio visuals in teaching and eliminating barriers impeding the use of AVR.*

Keywords: effective utilization, audio visuals, nurse educators, barriers

INTRODUCTION

In a classroom setting, teaching and learning activities become engaging when audiovisual aids are utilised effectively and efficiently. A well-planned and imaginative use of audiovisual aids in lessons should do much to banish apathy and give students something practical to see and do (Ibrahim 2025), and at the same time help to train them to think things out for themselves. Onuoha and Chukwueke (2020) noted that the Nigerian educational system has undergone several changes due to the integration of information and communication technologies (ICTs) in the teaching and learning processes, alongside a steady rise in the enrolment of students. The authors further argue that these factors are now making it challenging for effective teaching and learning to occur without suitable tools and mechanisms. Among these tools are audiovisuals, or AV resources.

Audio-visuals are commonly referred to as those instructional materials that may be used to convey meaning without complete dependence upon verbal symbols or language (Katuwal 2023). They serve as aids for training or educational materials directed at both the senses of hearing and sight, used in classroom instructions, library collections, or the like (Projectstore 2023). Examples may include photographs, computers (or a computer lab), transparencies, projectors, maps, films, slides, posters, charts, CDs, videocassette recorders (VCRs) and audio/video, videocassette players (VCPs), and Xerox machine tape recorders/players, among others. Some audio-visual components are like processes and experiences; for example, dramatising an event or a procedure or making a diorama (Putra 2022).

In recent times the use of audio-visual (AV) teaching materials has gained wider use among nurse educators because it enhances the learning and understanding of multiplex concepts and skills needed in professional nurses (Korkut & Ulker, 2024). These aids can include a variety of resources, such as videos, simulations, and interactive multimedia programmes. Aina and Adekanye in

Ayankola and Busari (2024) explained that educators have realised the value of audio-visual resources, not as a separate subject or a teaching project, but as an effective, vital method of teaching, providing for the presentation of knowledge through seeing and learning experience. The multidimensional nature of information required in the training of nurses makes it difficult to meet the objective of nursing through only the lecture method (Mishra 2023); hence, the gains in the use of audiovisual resources in the teaching-learning processes.

The advent of computer-assisted instruction (CAI) and educational games has further emphasised the primary function of audio-visual resources, which is to improve the efficiency and effectiveness of the teaching (Ibrahim 2025). Nurse educators expressed positive perceptions towards the utilization of audiovisuals in teaching (Ramon-Abues et al., 2025). They believe that audiovisual resources can enhance students' knowledge, practical skills, and interpersonal learner competencies, as well as link face-to-face learning with clinical practice (Elcokany et al., 2022). Studies have also found that the use of video-based instruction can improve students' performance and confidence levels in nursing procedures, such as handwashing (Goode et al., 2021). The need for well-equipped demonstration room and skilled personnel has been emphasized by Nurse educators to promote effective clinical simulation as a teaching approach (Asegid et al., 2024). Factors that influence the perceived availability and utilisation of audio visuals among nurse educators in nursing education include the need for quality clinical placements and the challenge of locating and sustaining them (Kennedy-Malone et al., 2023). Factors such as vividness, humour linguistic, teaching tools fluency, and empathy in nurse-patient role-play videos should be emphasized by nurse educators

Additionally, the use of audio-visual narratives during simulation pre-briefs can enhance the learning experience for nursing students (Wiedel, 2024). The efficacy of using one-way video as a learning approach in nursing education has been supported, with hybrid pedagogical models combining video streaming and face-to-face lectures being effective (Malsakpak & Pourteimour, 2024). Feedback on video skills is seen as an important dimension of teaching and learning, with the potential to positively impact mental health and provide valuable learning support (Epstein et al., 2020).

One of the primary barriers identified in the literature is the lack of technological infrastructure and resources. Onyejelem (2025) highlighted challenges in the use of audio-visual materials in teaching social studies in Nigeria, citing inadequate resources and technological infrastructure as major hindrances. In nursing education, the barrier to the use of audio-visual equipment and technology has not been loud, and it has continually frustrated the integration into the nursing curriculum. Furthermore, nurse educators encounter obstacles related to technological complexities and usability issues. Retinger and Kuhns (2023) discuss barriers faced by nurse educators in using telehealth for educational purposes, such as difficulties with user-friendly equipment and a lack of initial training. While their study focuses on telehealth, these challenges are transferable to the operability of audio-visual materials in institutions, where similar issues in equipment usability and training may hinder effective integration into nursing education.

In addition, the use of audio-visual educational materials and technologies in nursing is conspicuously influenced by context and culture (Mohamed et al. 2020); nursing student perspectives on barriers and opportunities in the utilisation of e-learning and the high influence of culture on the adoption of educational technology impede the use of audio-visuales. Notwithstanding the benefit recognised by nurse educators in the use of audio-visual materials and technology for knowledge impart, the tutors still encounter barriers to effective use in nursing schools. This study determined the barriers and utilization of audio visuals among nurse educators in nursing training institutions in Anambra State and also determined to what extent nurse educators effectively use audio-visuales as teaching-learning resources in nursing education institutions in Anambra State. Two hypotheses, academic qualification of nurse educators would not significantly influence their effective use of audio visuals as teaching-learning resources and Years of teaching experience of nurse educators would not significantly influence their effective use of audio visuals as teaching-learning resources were also tested in the study.

METHODOLOGY

Research Design

The cross-sectional descriptive survey design was used to elicit information on the barriers to effective utilization of audio visuals in nursing education institutions in Anambra State.

Area of the Study

The study was carried out in Anambra State in south east Nigeria. There are four schools of nursing offering a 3- year basic nursing programmes in the state and one university offering a 5-year generic nursing science programme with NMCN accreditation. These are Anambra State School of Nursing Chukwuemeka Odimegwu Ojukwu University Teaching Hospital Nkpor, School of Nursing, NAUTH Nnewi, School of Nursing Iyi-enu Hospital Ogidi, School of Nursing Our Lady of Lourdes Hospital Ihiala, and Department of Nursing Science, Faculty of Health Science and Technology in Nnamdi Azikiwe University, Nnewi Campus respectively, and they were all included in the study.

Population for the Study

The population for the study comprised of all one hundred and fourteen (114) nurse educators teaching different courses in the nursing education institutions in Anambra State at the time of the study. The population is shown in 1.

Table 1. Population of Nurse Educators

Name of Institution	Number of Nurse Educators
Department of Nursing NAU Nnewi Campus	17
School of Nursing NAUTH Nnewi	29
Anambra State School of Nursing COOUTH Nkpor	19
School of Nursing Iyi-Enu Hospital Ogidi	23
School of Nursing Our Lady of Lourdes Hospital Ihiala	26
TOTAL	114

Inclusion criteria

- a. Nurse educators teaching at least one course at the time of data collection.
- b. Willingness of the nurse educators to participate in the study.
- c. Availability of nurse educator at the time of data collection

Exclusion criteria

- a. Nurse educators newly employed and are yet to be assigned courses to teach
- b. Clinical instructors involved in clinical teaching only.

Sample and Sampling Technique

Census method of sample size was adopted because of the small population size (114) of nurse educators in the four hospital-based schools of nursing and one university-based nursing programme with NMCN accreditation in the state.

Instruments for Data Collection

Two researcher developed instruments called Audio visual Availability and Utilization Questionnaire (AAUQ) and Audio-visual Availability Observation Checklist (AAOC) were used by the researcher for the collection of data for this study. The AAUQ comprises of section A contains demographic data of respondent and sections B and C which has items on Availability and Utilization of Audio visuals respectively. AAOC consists of a list of twenty-four (24) audio visuals consisting of all AV's as stipulated in NMCN minimum requirement for teaching learning resources needed for accreditation. The check list was meant to be used to ascertain the AV's available in the nursing education institutions.

Validation and reliability of the Instruments

To ensure content and face validity of the instruments AAUQ and AAOC, four Nursing Science experts in Nursing Education, Community Health Nursing, Nursing Administration and one

measurement and evaluation expert were given copies of the research objectives, research questions, hypotheses and the initial draft of AAUQ and AAOC, with nineteen (19) and thirty (30) items respectively. They scrutinized the items were tested for reliability and internal consistency of AAUQ and AAOC items were insured using a pilot test conducted among twelve (12) nurse educators at State School of Nursing Agbor Delta State. The reliability coefficients were determined using Spearman Rank Order method and Cranach alpha for AAUQ and Split half method for AAOC. The reliability coefficient of the AAUQ and AAOC were found to be 0.85 and 0.89 respectively.

Ethical Consideration

Ethical approval was obtained from the Human Research and Ethics Committees of the Faculty of Health Sciences Nnamdi Azikiwe University Nnewi Campus Administrative permission was obtained from each participating institution. All participants were fully informed of the objectives and design of the study.

Method of Data Collection

The instruments were administered by the researchers to the nurse educators in their offices at the different nursing education institutions in Anambra State and were collected immediately after it was filled. Each of the institutions was visited thrice during the period of data collection to ensure full participation of all the educators. The data collection lasted for six weeks. To ensure that nurse educators respond only once to the questionnaire, each nurse educator was administered the questionnaire in their place of primary assignment. The researchers checked the audio-visual resources in the various institutions and recorded them accordingly on the checklist.

Method of Data Analyses

The generated data were collated, coded and analysed using the Statistical Package for Social Science (SPSS) for Windows version (27). Research questions were answered using percentages, means, and standard deviation. Demographic data were scored in frequencies and presented in figures and tables. The hypotheses were tested at the 0.05 level of significance using the Kruskal-Wallis H test. Utilisation questions were scored with percentages and means. Responses of presence of each audiovisual were scored in percentages, while the frequency/extent of utilisation was scored on a four-point Likert-like scale thus: always used, 4 points; occasionally used, 3 points; Rarely used 2 points; Not at all used 1 point. The means were determined, and a score of 2.5 was used as decision criteria. For audio visuals with a mean of 2.5 or above was deemed to be utilised.

Barriers to utilisation of AVs questions were scored with means. Responses on the barriers to utilisation were scored on a four-point Likert-like scale thus: Strongly agree: 4 points; Agree: 3 points; Disagree=: 2 points; Strongly disagree: 1 point. The means were determined, and a score of 2.5 was used as decision criteria. Factors with a mean of 2.5 or above were deemed to be a barrier to utilisation of audiovisual

RESULTS/FINDINGS**Demographic Data**

Table 2: Demographic characteristics of Nurse Educators

n=103

CHARACTERISTICS	FREQUENCY	PERCENTAGE
Institutions		
SON Ihiala	25	24.3
SON Iyi-enu	22	21.4
NAU Nnewi Campus	15	14.6
SON Nkpor	19	18.4
SON NAUTH Nnewi	22	21.4
Highest Qualification		
PGDN	11	10.7
BNSc/BSc	50	48.5
MNSc/MSc	33	32.0
Ph.D.	9	8.7
Areas of Specialisation		
Nurse Educator	33	32.0
Midwife Educator	17	16.5
Public Health Nurse Educator	8	7.8
Not registered	45	43.7
Years of Teaching Experience		
< 1 year	14	13.6
1 - 5 years	32	31.1
6 - 10 years	25	24.3
11 - 15 years	13	12.6
≥16 years	19	18.4

Table 2, shows the demographic characteristics of the study population. A greater percentage (24.3%) of the study population was recruited from the School of Nursing Ihiala, while the least percentage (14.6%) came from Nnamdi Azikiwe University, Nnewi Campus. Almost half (48.5%) of the nurse educators had Bachelor of Nursing Science/Bachelor of Science degree as their highest

degree, while those with PhD constituted the least percentage (8.7%) of the study population. Respondents who were not registered as nurse educator or midwife educator or public health nurse educator were the majority (43.7%), followed by nurse educators (32%), midwife educators (16.5%) and public health nurse educators (7.8%). Many (31.1%) of the nurse educators were those with 1-5 years of teaching experience, while those with 11-15 years of experience constituted the least percentage (12.6%) of the respondents.

Table3: Extent of effective audio-visuals use by nurse educators in teaching students

Audio Resources	Visual	Always	Occasionally	Rarely	Not at all	Mean Utility Score	SD
		N (%)	N (%)	N (%)	N (%)		
Pictures		41 (39.8)	40 (38.8)	13 (12.6)	9 (8.7)	3.09*	0.93
Projectors		8 (7.8)	47 (45.6)	14 (13.6)	34 (33.0)	2.28	1.01
Slides		3 (2.9)	23 (22.3)	21 (20.4)	56 (54.4)	1.73	0.90
Film strips		0 (0)	11 (10.7)	14 (13.6)	78 (75.7)	1.34	0.66
Micro films		1 (1.0)	5 (4.9)	16 (15.5)	81 (78.6)	1.28	0.60
Microscope		1 (1.0)	10 (9.7)	17 (16.5)	75 (72.8)	1.38	0.70
Posters		47 (45.0)	32 (31.1)	14 (13.6)	10 (9.7)	3.12*	0.98
Maps		22 (21.4)	36 (35.0)	20 (19.4)	25 (24.3)	2.53*	1.08
Display boards		28 (27.2)	16(15.5)	10 (9.7)	49 (47.6)	2.22	1.29
Magnetic boards		18 (17.5)	18 (17.5)	13 (12.6)	53 (51.5)	2.01	1.18
Real objects		45 (43.7)	31 (30.1)	9 (8.7)	18 (17.5)	3.00*	1.11
Models		57 (55.3)	29 (28.2)	4 (3.9)	13 (12.6)	3.26*	1.01
Radio		4 (3.9)	15 (14.6)	17 (16.5)	67 (65.0)	1.57	0.88
Compact discs		6 (5.8)	5 (4.9)	20 (19.4)	72 (69.9)	1.46	0.83
Television		1 (1.0)	12 (11.7)	17 (16.5)	73 (70.9)	1.42	0.73
Cassette		2 (1.9)	10 (9.7)	18 (17.5)	73 (70.9)	1.42	0.74
DVD		6 (5.8)	15 (14.6)	15 (14.6)	77 (65.0)	1.61	0.94
CD Rom		6 (5.8)	18 (17.5)	11 (10.7)	68 (66.0)	1.63	0.97
Videos		6 (5.8)	13 (12.5)	18 (17.5)	66 (64.1)	1.60	0.92
Computer Programme		8 (7.8)	19 (18.4)	13 (17.5)	63 (61.2)	1.72	1.02
Charts		42 (40.8)	36 (35.0)	11 (10.7)	14 (13.6)	3.02*	1.03
Transparencies		0 (0)	10 (9.7)	10 (9.7)	83 (80.6)	1.29	0.63

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Power points presentation	13 (12.6)	49 (47.6)	9 (8.7)	32 (31.1)	2.41	1.06
Diorama/Simulation	3 (2.9)	11 (10.7)	7 (6.8)	82 (79.6)	1.36	0.79

Table 3 shows the extent of effective use of audio-visuials by nurse educators in teaching students. Based on the Likert scaling (mean cut-off score ≥ 2.5) data indicated that pictures (3.09), posters (3.12), maps (2.53), real objects (3.00), models (3.26) and charts (3.02) were rated as being 'utilized' in teaching/learning activities in nursing institutions in Anambra State.

Table 4: Barriers to effective use of audio-visuials as teaching learning resources by nurse educators

	Barriers to use of audio-visual Resources	Strongly Agree N (%)	Agree N (%)	Disagree N (%)	Strongly Disagree N (%)	Mean Utility Score	SD
1	Lack of knowledge of AV availability	7 (6.8)	20(19.4)	40 (38.8)	36 (35.0)	1.98	0.90
2	Limited time for teaching	28 (27.2)	34(33.0)	18 (17.5)	23 (22.3)	2.65*	1.10
3	Technophobia: the users are not comfortable with technology	4 (3.9)	21(20.4)	29 (28.2)	49 (47.6)	1.80	0.89
4	Inadequate infrastructure/power supply	51 (49.5)	32(31.1)	9 (8.7)	11 (10.7)	3.19*	0.99
5	Cultural bias and misrepresentation of issues.	3 (2.9)	18(17.5)	42 (40.8)	40 (38.8)	1.84	0.81
6	Lack of technical know-how of AV use	8 (7.8)	32(31.1)	24 (23.3)	39 (37.9)	2.08	1.00
7	Poor funding hampers the purchase of audio-visuials	40 (38.8)	42(40.8)	13 (12.6)	8 (7.8)	3.10*	0.90
8	Users lack access to audio-visual Resources	27 (26.2)	38(36.9)	24 (23.3)	13 (12.6)	2.77*	0.98
9	Students understand lectures without it.	2 (1.9)	24(23.3)	51 (49.5)	26 (25.2)	2.01	0.75
10	There is too much workload	12 (11.7)	24(23.3)	44 (42.7)	23 (22.3)	2.24	0.93
11	Inadequate number of audio visual	35 (34.0)	39(37.9)	23 (22.3)	6 (5.8)	3.00*	0.89
12	Non availability of audio visual	37 (35.9)	30(29.1)	19 (18.4)	17 (16.5)	2.84*	1.09
13	Lack of maintenance/no spare parts	17 (16.5)	48(46.6)	27 (26.2)	11 (10.7)	2.68*	0.87

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14	Lack of awareness of importance of audio visuals	10 (9.7)	36(35.0)	33 (32.0)	24 (23.3)	2.31	0.93
15	Attitude of students towards learning	1 (1.0)	24(23.3)	49 (47.6)	29 (28.2)	1.97	0.74
16	Attitude of teachers to use of audio visuals/Laziness	7 (6.8)	38(36.9)	27 (26.2)	31 (30.1)	2.20	0.95
17	Lack of operating materials	17 (16.5)	44(42.7)	22 (21.4)	20 (19.4)	2.56*	0.98

Barrier to effective utilization of audio visuals

Table 4 shows the barriers to the effective use of audio-visuals as teaching learning resources by nurse educators. Using the Likert scale, the respondents identified ‘Limited time for teaching’(2.65), ‘Inadequate infrastructure/power supply’(3.19), ‘Poor funding for the purchase of audio-visuals’(3.10), ‘lack of access to audio-visual resources’ (2.77), ‘Inadequate number of audio visual’ (3.00), ‘Non availability of audio visual’ (2.84), ‘Lack of maintenance/no spare parts’(2.68), and ‘Lack of operating materials’(2.56) as some of the barriers militating against the use of audio-visuals as teaching learning resources by nurse educators in Anambra state.

Hypothesis 1: Academic qualification of nurse educators will not significantly influence their use of audio visuals as teaching-learning resources

Table 5: Relationship between the academic qualification of nurse educators and their effective use of audio visuals as teaching-learning resources

	Highest Qualification	N	Mean Rank Utility Score
LEVEL OF UTILITY	PGDN	11	41.50
(Unutilised; Utilised)	BNSc/BSc	49	50.87
	MNSc/MSc	33	53.86
	PhD	9	58.50
	Total	103	

Statistics: $\chi^2 = 4.21$; DF = 3; P = 0.239

Independent variable = Academic qualification; Dependent variable = Level of utility

Table 5 shows the influence of academic qualification of nurse educators on their effective use of audio visuals as teaching-learning resources. Kruskal-Wallis H test showed that there was no statistically significant difference in level of utility of AVR by nurse educators among different academic qualifications, $\chi^2 = 4.21$, $p = 0.239$, with a mean rank utility score of 41.50 for PGDN, 50.87 for BNSc/BSc, 53.86 for MNSc/MSc and 58.50 for PhD. This finding suggests that level of utility of AVR is not significantly influenced by academic qualification of the nurse educators.

Hypothesis 2: Years of teaching experience of nurse educators will not significantly influence their effective use of audio visuals as teaching-learning resources

Table 6: Influence of years of teaching experience of nurse educators on their effective use of audio visuals as teaching-learning resources

	Years of Teaching Experience	N	Mean Rank Utility Score
LEVEL OF UTILITY (Unutilised; Utilised)	< 1 year	14	48.79
	1-5 years	32	49.47
	6 - 10 years	24	50.00
	11 - 15 years	13	45.42
	16 years and above	19	62.97
	Total	103	

Statistics: $\chi^2 = 7.89$; DF = 4; P = 0.09

Independent variable = Years of teaching experience; Dependent variable = Level of utility

Table 6 shows the influence of years of experience of nurse educators on their effective use of audio visuals as teaching-learning resources. Kruskal-Wallis H test showed that there was no statistically significant difference in level of utility of AVR by nurse educators among the different years of teaching experience, $\chi^2 = 7.89$, $p = 0.09$, with a mean rank utility score of 48.79 for < 1 year, 49.47 for 1 – 5 years, 50.0 for 6-10 years, 45.42 for 11-15 years and 62.97 for 16 years and above. This finding suggests that level of utility of AVR is not significantly influenced by the year of teaching experience of the nurse educators.

DISCUSSION

This study shows that majority of the respondent were of the category 1 - 5 years of teaching experience which is in line with the study of Awungafac et al., (2024), this could be as of recent recruitment and retirement of the old staff. The study also shows higher proportion of bachelor's holders to masters and doctorate degree holders in nursing

Regarding the extent of utilization of audio-visuals as teaching-learning resources in nursing education institutions in Anambra State the study reveals pictures, posters, maps, real objects, models and charts as audio visual aids use by educators in nursing school in large extent this finding contradicts that of Awungafac et-al 2024; Goode et al. (2021) whose respondents expressed PowerPoint presentation as prominently used advanced technology for teaching among educators. These presentations offer opportunities for multimedia integration, interactivity, and organization of complex information, enhancing student comprehension and engagement. however, the use simulation in their study was among the main method for teaching which corroborate the use of model in our findings.

The high utilisation rates of charts, models, pictures, and posters also validate Ezennakwe's (2022) studies. These resources are widely recognised for their ability to visually represent complex concepts, illustrate anatomical structures, and enhance understanding and retention among students. Additionally, Ekulu et al. (2025) emphasise the importance of visual materials, including charts and posters, in facilitating learning and information retention. Also, the substantial use of real objects and projectors reflects educators' efforts to incorporate hands-on experiences and multimedia presentations into their teaching practices. This finding resonates with the literature on the effectiveness of tangible objects and multimedia tools in promoting experiential learning and catering to diverse learning styles (Ayankola & Busari, 2024; Chukwueke & Oluwabunmi, 2022).

The use of maps and show boards, although to a lesser level show educators' awareness of the worth of special representation and visual aids in expressing geographical or organisational information. This finding corroborates Onuoha and Chukwueke's (2020) study, which highlights the role of visual aids, including map and display boards in promoting effective communication and knowledge dissemination. Literatures indicate the use of audio-visuals stimulates nursing student attention and visual awareness (korkut &Ulker 2024), while unnecessary information is removed, reducing assimilation workload, which support the theory of cognitive loading (Youssef et-al., 2023)

In terms of barriers to utilisation of audio-visual aids, this study reveals inadequate infrastructure/power supply, poor funding for the purchase of audio-visuals, an inadequate number of audio-visuals, the non-availability of audio-visuals, a lack of access to audio-visual resources, a

lack of maintenance/no spare parts, limited time for teaching, and ‘lack of operating materials’ as prominent barriers militating against the use of audio-visuals as teaching-learning resources by nurse educators in Anambra State. These findings are in line with Enekwe and Mogboh (2021), where electricity was revealed as a factor militating the use of audio visuals among schools in Enugu, and Rettinger and Kuhn (2023) and Lawal (2021), whose studies supported inadequate infrastructure and the non-availability of some audio visuals as a barrier to audio-visual aid use for teaching. However, proper consolidation of audio-visual materials can actually optimise teaching and satisfy learning among students (Korkut & Ulker 2024). Also, poor funding and lack of access to audio-visual resources were significant barriers. This finding is consistent with studies by Awungafac et al. (2024), which emphasised the impact of funding constraints on the availability of instructional materials. Conversely, Epstein et al. (2020) discussed the potential of video-based learning to provide cost-effective education.

In addition, limited time for teaching and ‘lack of operating materials maintenance issues’ was identified as barriers in this study. This corroborates the work of Chukwueke and Oluwabunmi (2021) and Enekwe and Mogboh (2021), whose study discussed the availability and use of instructional materials in teaching and learning, emphasising the importance of maintenance essential for continuity of use. These findings were expected, as there is unequivocal underfunding of Nigeria's education system, an epileptic power supply and perennial infrastructural decay in the country, and Nigerian nursing schools are not exempt from these national realities.

This study also shows that the level of utility of audio-visual aids is not significantly influenced by the academic qualification of the nurse educators. Likewise, the years of teaching experience of the nurse educators.

Limitations and Strength of the Study

Audio visual resources are numerous and cannot be fully covered in a single study. The sample size of one hundred and three respondents which may be regarded as not large. The use of observation check list to corroborate the reports of the nurse educators about the availability of the AVs was a strength to this study. It also went further to show that some of the AVs presented by the institutions during the accreditation exercises are not functional.

Implication to Nursing Education and Practice

As nurse educators utilised some AVR for teaching the student nurses, it implies that their supervisors should adequately supervise and motivate them to effectively use all the AVR for teaching-learning experiences. The numerous barriers to the effective use of AVRs by nurse educators as revealed by this study imply that management and relevant stakeholders, such as

education policy makers, non-governmental agencies, and the likes, should adequately address these barriers to ensure AVR availability and enhance their use by the nurse educators.

CONCLUSIONS

Findings of this study revealed that nurse educators utilised some AVR for teaching the student nurses, and the AVR mostly used by nurse educators are pictures, posters, display boards, real objects, models, and charts. The barriers to the use of AVRs by nurse educators are 'limited time for teaching', 'inadequate infrastructure/power supply', 'poor funding for the purchase of audio-visual resources', 'lack of access to audio-visual resources', 'inadequate number of audio-visuals', 'non-availability of audio-visuals', 'lack of maintenance/no spare parts', and 'lack of operating materials. Nursing education managers should motivate and supervise subordinates to ensure they utilise AVRs for an effective and efficient teaching and learning experience for the student nurses. Government and other stakeholders in nursing education should harness resources for efficient funding for procurement and maintenance of audio-visual materials in nursing education institutions. Further research could delve deeper into the specific pedagogical approaches associated with the use of different audio-visual resources and their impact on student learning outcomes in nursing education

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Conflict of Interest

The authors declare that they have no conflict of interest.

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