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Beyond Resource Availability: Examining Instructional Material Utilization in Junior Secondary School Health Education

Akpugo, J. C.[1] & Ukwueze, I. P.[2]
[1] Department of Health Education, Enugu State University of Science and Technology.
[2] Department of Human Kinetics and Health Education, University of Nigeria, Nsukka.
Corresponding Author's Email: julietakpugo@gmail.com

ABSTRACT

The availability of health instructional materials does not necessarily translate into effective classroom utilization. Therefore, ineffective utilization of instructional materials may limit opportunities for students to have experiential learning of health concepts. Hence, the purpose of this study is to examine the utilization of instructional material in junior secondary school health education. A descriptive survey research design was adopted for the study. The population of the study comprised 231 junior secondary school (JSS) health education teachers in all the public junior secondary schools (JSS) in Anambra state. The sample size of the study was 146 JSS health education teachers drawn using multi-stage sampling procedure. The instrument for data collection was Questionnaire on Availability and Utilization of Health Instructional Materials in Teaching Health Education (QAUHIMTHE) with the reliability coefficient of 0.86, determined using Cronbach alpha method. Data was analyzed using mean and standard deviation to answer the research questions, while the independent sampled t-test was used in testing the hypotheses at 0.05 level of significance. It was revealed that teachers frequently utilize charts and posters while illustrating health concepts; pamphlets on health topics to support classroom discussions, among others. Teachers' utilization of health instructional material in teaching health education is significantly influenced by their gender and school location. The researcher recommended among others that workshops should be organized to improve teachers' utilization of health education instructional resources.

Keywords: Instructional material utilization; Health education; Junior secondary schools; Beyond resource availability; Educational resource management.

INTRODUCTION

Health education is a vital aspect of students learning experience in school because it prepares the students with the right knowledge, attitudes, values, and skills that is required to maintain good health and prevent diseases. With the knowledge of health education, students do not only learn about their personal hygiene, and nutrition, they also learn the best practices to engage in disease prevention, environmental sanitation, and healthy lifestyles (Babatunde, 2017). At the junior secondary school level, health education is particularly significant because students are at a critical developmental stage where lifelong health habits, attitudes, and values are formed (Erenoglu et al., 2019). Nevertheless, Nwachukwu (2025) stated that most students perceive health education as less important subject compared to other subjects, because they usually think that the study of health education is just about physical activities with focus on sports and fitness. With this perception, students may also believe that health education covers information they already know from their families, peers, social media, or everyday experiences. Consequently, students may underestimate the scientific knowledge and practical competencies involved in understanding health risks, evaluating health information, and making informed decision. This means that most students are yet to see health education as a subject designed to promote healthy living, disease prevention, and positive health behaviors (Erenoglu & Sekerci, 2019).

According to World Health Organization (WHO) (2017), health education empowers individuals to make informed decisions about their health and to adopt behaviors that enhance well-being. Thus, health education should motivate students to adopt and maintain health-promoting behaviors through education and supportive environments. This indicates the crucial nature of health education. However, despite the importance of health education, the teaching and learning of the subject in secondary schools has been saddled with several challenges (Nwachukwu, 2025). Some of these challenges include; overcrowded classrooms and limited time allocation (Jimoh et al., 2025), limited pedagogical skills, inadequate professional development (Oladipo et al., 2020), and inadequate instructional materials (Jamebozorg & Salimi, 2017), among others. Benes and Alperin (2025) observed that one of the most pertinent challenges faced in teaching and learning of health education is inadequate instructional materials.

When instructional materials such as charts, models, posters, first-aid kits, audiovisual aids, and real-life health equipment are lacking, teachers are forced to rely mainly on verbal explanations and textbook-based instruction (Ordu, 2021). Teaching health education by verbalizing the

concepts puts students in difficulty of comprehending important health measures (Sandhia, 2024). Hence, leading to shallow understanding, poor academic interest and achievement in health education. However, teachers are obligated to make the subject concrete and real to students since they are saddled with the responsibility of not only ensuring the availability of health instructional materials but its right utilization. Hence, the need for this study.

Instructional materials are teaching and learning resources. According to Ajoke (2017), instructional materials are devices used to support instruction, enhance understanding, and improve retention of knowledge among learners. Studies have indicated different aspects of instructional materials such as printed, visual, audio, audio-visual, digital, and realia (Gamnjoh & Ndon, 2024; Babayev, 2021; Yildirim, 2017). Printed instructional materials are those resources that are produced in hard-copy form like health education textbooks, charts and posters, among others. Visual instructional materials are sighted resources which includes diagrams of the human body and organs, flashcards, wall charts showing disease transmission and prevention. Audio instructional materials are resources that appeal majorly to the sense of hearing. For instance, radio health education programs, recorded talks and interviews on health issues, health jingles and songs. Audio-visual instructional materials appeal to both the sense of sight and hearing, like the educational videos and documentaries, animated clips on body systems and health practices, among others. Digital instructional materials include the mobile health apps for adolescents, and e-learning platforms and digital simulations (McCall et al., 2018). Realia means real objects resources like first-aid kits and materials, models of human organs, sanitary materials, and waste-disposal items (Fajembola et al., 2020).

Evidently, each instructional materials help to promote the application of knowledge among health education students, thereby ensuring that they do not only learn health concepts but also develop behaviors necessary for healthy living. Umeozor (2020) reported that although many secondary schools in Anambra State are equipped with health education instructional materials, teachers limited or ineffective utilization of these resources may impede students' understanding of health-related concepts. Similarly, Persky and McLaughlin (2017) observed that students do not respond rightly when instructional materials are being used incorrectly in their teaching and learning. This could be attributed to poor lesson planning and over-reliance on lecture method (Sun & Huang, 2025), demonstrating the fact that the extent to which instructional materials are utilized effectively in teaching and learning may significantly enhance or mar the outcome of any instruction. Nevertheless, other variables like teacher's gender and school location can also influence the extent of utilization of health instructional material for classroom delivery.

Gender is socially constructed roles and it is characterized by women, men, girls, and boys. According to Nduji and Madu (2020), gender is the social and cultural differences and expectations associated with being male or female, as opposed to biological distinctions. In many cultures, the males are expected to handle more physically demanding tasks because of their perceived masculine strength, while the females are assigned lighter responsibilities (Rojak & Irfan, 2025; Nduji et al., 2022). Existing literature by Afolayan (2017) founds that female teachers were more likely to utilize instructional materials than their male counterparts. Implying that gender may be associated with teachers' instructional practices. On the contrary, Belayneh (2018) found no significant gender-based difference in instructional material utilization. Studies also show that teachers' utilization of instructional materials was not significantly influenced by gender (Isola, 2018; Bewket, 2019), suggesting that the relationship between teachers' gender and their utilization of instructional materials remains inconclusive and may vary across educational contexts and school location.

School location may further shape teachers' opportunities and expectations regarding the utilization of health instructional materials. School location is the geographical position of an academic establishment which could be in rural or urban (Nduji et al., 2026). Akpugo and Aleke (2021) stated that most urban school are often furnished with quality instructional materials compared to rural schools. Therefore, the disparity in the distribution of educational resource across school location could pose challenge in its effective utilization. Empirical evidence from Nigeria shows that school location is associated with differences in the utilization of instructional resource in secondary schools (Akano et al., 2026; Ajayi & Akinsanya, 2021; Buba et al., 2019), highlighting potential geographical inequalities in educational provision. Conversely, there are research evidences that school location does not necessarily produce significant differences in teachers' utilization of instructional materials (Ningi, 2023; Akpugo & Aleke, 2021; Awodun, 2019), suggesting that geographical differences in resource access do not automatically translate into corresponding differences in teachers' reported utilization practices.

Theoretically, the study supports the Constructivist Theory (CT) by Vygotsky (1978). Constructivist Theory has its tenets on the fact that learning is a process of actively constructing knowledge by integrating experiences together with the learner prior knowledge. Thus, social interaction, mediation, and scaffolding aided with the use of health education instructional materials may enable students to construct understanding through guided experiences. Therefore, by integrating this theory in this study, the study seeks to examine the utilization of instructional material in junior secondary school health education based on teachers' gender and school location which will help offer both empirical and conceptual evidence to inform educational practice and policy. The study answers the following

research questions;

1. What is the extent of utilization of instructional material by health education teachers?
2. What is the extent of utilization of instructional material by health education teachers based on their gender?
3. What is the extent of utilization of instructional material by health education teachers based on their school location?

The following hypotheses were formulated and tested at 0.05 probability level

1. the extent of utilization of instructional material by health education teachers is not significantly influenced by their gender
2. the extent of utilization of instructional material by health education teachers is not significantly influenced by their school location

METHODS

The researchers adopted a descriptive survey design. The researcher's choice of this design is because the study investigates the extent to which teachers utilize instructional materials in teaching junior secondary school health education. The population of the study is comprised of 231 junior secondary school (JSS) health education teachers (that is 88 male and 143 female) in all the public JSS in Anambra state. The population distribution based on location are urban- 142 teachers and rural-99 teachers (Source: Post Primary School Management Board, Anambra state; 2025/2026 academic session). The sample size of the study was 146 JSS health education teachers (that is 62 males and 84 females) drawn from the population. 96 teachers are from urban- 41 males and 55 females, while 50 are from rural schools (that is 16 males and 34 females). The sample size was determined using Taro Yamane formular. Multi-stage sampling procedure was used in selecting the sample. At the first stage, simple random sampling technique with replacement was used to select three education zones from the six zones in the state. In the second stage, purposive sampling was used to select two local government area (LGA) from each of the selected education zone. The choice of purposive was because of location (that is urban and rural schools). This gave a total of six LGA's. Thirdly, purposive sampling technique was used to select schools with both male and female health education teachers which gave a total of 22 schools (e.g. 15-urban and 7-rural schools). At the end, proportionate stratified sample technique was used to draw 146 health education teachers to be studied in each of the sampled school.

The instrument used for data collection was Questionnaire on Teachers' Utilization of Instructional Materials (QTUIM), developed by the researchers. The instrument has two sections (A & B). Section A contains demographic question on teacher gender and school location. Section B has 10 items measuring teachers' utilization of health instructional materials (e.g., I integrate human anatomy models during health instructional activities). The instrument was modeled on a 4-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (4) with the highest score of 40 and lowest score of 10. The instrument was subjected to face validation by three experts in Health education unit, and Measurement and evaluation unit all from the University of Nigeria, Nsukka. This was done to ensure that the instruments measured the intended construct in the study. Cronbach alpha reliability method was used to ascertain the reliability coefficient of the instrument at 0.86, indicating that the instruments were reliable as recommended by Clark and Watson (2019).

The data collection procedure was done by visiting the sampled schools. Prior to the commencement of the study, the researchers intimated the research assistants who are post graduate students at the Nnamdi Azikiwe University, Awka on the purpose of the study. The researchers ensured that participation was entirely voluntary, and teachers were informed of the research objectives, steps involved in carrying out the study, and benefits. Informed consent was obtained from all participants. In addition, no identifying information of the participants were collected, so as to guarantee the confidentiality and anonymity of the response. Participants were also informed that they could withdraw from the study at any stage without penalty. Copies of the instrument were administered to the teachers and retrieval was done on the spot.

The administered instruments were collected and the scores collated were statistically analyzed using mean and standard deviation to answer the research questions. Real limit point was used to make decision on the item statements where the mean responses score of 1.00-1.49 has (NU), 1.50-2.49 (RU), 2.50-3.49 (FU) while 3.50-4.00 has (AU). AU means always used; FU-frequently used; RU-rarely used and NU- not used. The hypotheses were tested at 0.05 level of significance using independent sampled t-test.

RESULTS

Research Question One: What is the extent of utilization of instructional material by health education teachers?

Table 1: Mean and standard deviation on the extent of utilization of instructional materials by health education teachers.

S/N	Item Statements	$\bar{x}$	SD	Dec.
1	I use charts and posters while illustrating health concepts	2.29	1.131	RU
2	I integrate audio-visual materials in my lesson	2.58	1.025	FU
3	I use first aid kits to engage the students' thoughts about emergency response	2.40	1.032	RU
4	I utilize health-related textbooks materials to improve students' engagement	3.70	0.893	AU
5	I integrate human anatomy models during health instructional activities.	2.90	0.986	FU
6	I effectively utilize teaching aids to facilitate hygiene and sanitation lessons.	1.67	0.983	RU
7	Health reference materials are effectively integrated into my lesson delivery to enhance students' understanding.	3.52	0.898	AU
8	I improvise instructional materials when standard resources are unavailable	2.16	0.893	RU
9	I guide students to access and utilize online health content for independent learning and assignments	2.09	1.071	RU
10	I integrate pamphlets on health topics to support classroom discussions	2.15	1.046	RU
	Grand Mean	**2.55**	**0.55**	**RU**

NB: $\bar{x}$ = Mean; SD = Standard Deviation; Dec. = Decision; **N=146**

Data in table 1 shows that the mean ratings and standard deviation on the responses of health education teachers on item 1, 3, 6, 8-10 are within the range of ($\bar{x}$ = 1.67-2.29; SD = 0.893-1.131) which indicates that the teachers rarely utilize health instructional materials in the item statements. Also, health education teachers' responses on items 2, and 5 shows that they frequently utilize health instructional materials with the mean response rating and standard deviation ranging from ($\bar{x}$ = 2.40-2.90; SD = 0.986-1.025). However, items 4 and 7 indicates that some of the teachers always integrate instructional materials into their lesson delivery with the mean response rating and standard deviation ranging from ($\bar{x}$ = 3.52-3.70; SD = 0.893-0.898). With the grand mean rating of 2.55, it indicates that teachers frequently utilize charts and posters while illustrating health concepts; pamphlets on health topics to support classroom discussions; improvise instructional materials when standard resources are unavailable, among others.

Research Question Two: What is the extent of utilization of instructional material by health education teachers based on their gender.

Table 2: t-test analysis on the extent of utilization of instructional material by health education teachers based on their gender.

Teachers' Gender	N	$\bar{x}$	SD	Std. Error	df	t-test	Sig.	Dec.
Male	62	3.07	0.28	0.06	144	2.74	0.01	S
Female	84	2.04	0.24	0.05				

NB: $\bar{x}$ = Mean; SD = Standard Deviation; Std.Error = Standard Error; Dec. = Decision; df = Degree of freedom; Sig. = Significant or probability value; S = Significant; NS = Not Significant

The result in table 2 shows that the mean ratings and standard deviation on the responses of male health education teachers are ($\bar{x}$ = 3.07; SD = 0.28) while that of female health education teachers are ($\bar{x}$ = 3.07; SD = 0.28). This indicates that the male teachers are of the view that they frequently utilize health instructional materials whereas the female teachers rarely utilize health instructional materials.

Hypothesis One: The extent of utilization of instructional material by health education teachers is not significantly influenced by their gender.

As presented in Table 2, the independent-sample t-test reveals a statistically significant gender difference in health education teachers' utilization of instructional materials, $t(144) = 2.74$, $p = 0.01$. Since the probability value is below the 0.05 significance threshold, the null hypothesis is rejected. Thus, the finding indicates that the extent of utilization of instructional material by health education teachers is significantly influenced by their gender.

Research Question Three: What is the extent of utilization of instructional material by health education teachers based on their school location?

Table 3: t-test analysis on the extent of utilization of instructional material by teachers based on their school location.

Teachers' School Location	N	$\bar{x}$	SD	Std. Error	df	t-test	Sig.	Dec.
Urban	96	3.39	0.71	0.05	144	2.93	0.00	S
Rural	50	2.49	0.69	0.08				

NB: $\bar{x}$ = Mean; SD = Standard Deviation; Std.Error = Standard Error; Dec. = Decision; df = Degree of freedom; Sig. = Significant or probability value; S = Significant; NS = Not Significant

Table 3 shows that the mean ratings and standard deviation on the responses of urban health education teachers are ($\bar{x}$ = 3.39; SD = 0.71) while that of female health education teachers are ($\bar{x}$ = 2.49; SD = 0.69). This indicates that the urban teachers are of the view that they frequently utilize health instructional materials whereas the rural teachers are of the opinion that they rarely utilize health instructional materials.

Hypotheses Two: The extent of utilization of instructional material by health education teachers is not significantly influenced by their school location

In Table 3, the independent-sample t-test analysis reveals a statistically significant school location difference in health education teachers' utilization of instructional materials, $t(144) = 2.93$, $p = 0.01$. Since the probability value is below the 0.05 significance threshold, the null hypothesis is rejected. Thus, the finding shows that the extent of utilization of instructional material by health education teachers is significantly influenced by their school location.

DISCUSSION

The finding of the study shows that teachers frequently utilize charts and posters while illustrating health concepts; pamphlets on health topics to support classroom discussions; improvise instructional materials when standard resources are unavailable, among others. This suggests that instructional material utilization in junior secondary school Health Education involves both the selection of available resources and the adaptation of instructional practices to prevailing classroom conditions. However, the frequency with which instructional materials are used does not establish whether they are pedagogically appropriate, scientifically accurate, inclusive, or effective in improving learners' health knowledge and decision-making skills. This finding is in line with previous studies (Akano et al., 2026; Okpon, 2024; Didace & Andala, 2021), who found that instructional materials are frequently utilized in improving students understanding of subject matter.

The finding also reveals that male teachers frequently utilize instructional materials while the female teachers rarely utilize instructional resources in teaching health education. This shows that male health education teachers utilized instructional materials more than their female counterparts. Further analysis showed that teachers' utilization of instructional material in teaching health education is significantly influenced by gender. This indicates that male and female teachers demonstrate statistically different patterns in their instructional material utilization, suggesting that gender is associated with how teachers select, access, adapt, or integrate instructional materials into classroom teaching of health education. This finding is consistent with previous research that reported gender-related differences in teachers' use of instructional resources (Yussif, 2024; Dennis et al., 2023). Amos et al. (2022) found that female teachers demonstrated a higher level of instructional material utilization than their male counterparts. The finding of this study contradicts with that of Nwireh et al. (2026) and Ukala (2018), who revealed that female teachers utilize instructional materials more than their male counterparts.

The finding demonstrated that urban teachers frequently utilize health instructional materials while their rural counterparts rarely utilize health instructional materials in teaching health education. Hence, teachers' utilization of health instructional material in teaching health education is significantly influenced by their school location. The finding here is consistent with the view that geographical context of a school shapes their utilization of educational resources (Akpugo & Aleke, 2021; Buba et al., 2019). Differences in resource distribution, and access to educational support may create distinct instructional conditions in urban and rural schools (Rojak & Irfan, 2025). On the contrary, this finding is in contrasts with the result reported by Ameen et al. (2024), who found no statistically significant difference in instructional material utilization between teachers working in different school locations. This divergence suggests that the relationship between school location and teachers' utilization of instructional materials may vary across educational contexts, potentially reflecting differences in institutional conditions, resource distribution, and school-level support systems.

CONCLUSION

The study examined instructional material utilization in junior secondary school Health Education, with particular attention to teachers' utilization practices across gender and school location. The findings revealed that teachers frequently employed range of instructional resources in teaching junior secondary school health education student whereas there exists a notable disparity in instructional material utilization across gender and school location. Male teachers reported more frequent utilization of instructional materials than their female counterparts, while teachers in urban schools demonstrated higher utilization than those in rural schools. These differences suggest that instructional material utilization is shaped by both teacher-related and contextual factors, rather than being determined exclusively by the availability of resources.

Recommendations

1. Health education teachers should be encouraged and trained through continuous professional development programs on how to effectively utilize available instructional materials and how to improvise low-cost teaching aids when standard resources are not available.
2. Workshops and in-service training should be organized by teacher training institutions to improve teachers' utilization of health education instructional resources.
3. Attention should be given to addressing gender-related differences in instructional material utilization by ensuring equal access to training opportunities, mentoring, and instructional support for both male and female health education teachers.

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