



Improvisation of Instructional Materials in the Teaching of Home Economics for Sustainable Knowledge-Based Economy

¹Ozor, P. E., ²Okeke. E.N., & ³Okafor, O. E.

^{1,2&3}Department of Home Economics and Hospitality Management Education,
Alvan Ikoku Federal University of Education Owerri, Imo State

Abstract

Instructional materials in Home Economics enhance students for sustainable and resilient economy through practical skills and knowledge. Improvisation of instructional materials in Home Economics for sustainable knowledge-based economy is imperative. Therefore, the paper examined issues on improvisation of instructional materials in the teaching of home economics for sustainable knowledge-based economy. Four specific objectives guided the study. Descriptive survey design was adopted. A sample size of two hundred and twenty-two (222) subjects drawn from population 2,800 Home Economics students in Owerri Educational Zone 1 in Imo State, using the purposive sampling techniques. Structured questionnaire was used for data collection. Data collected were analyzed using descriptive statistics such as Mean and Standard deviation. The result showed that promoting **accessibility of instructional materials**, lowering costs associated with purchasing new material, promoting sustainable behaviors and practices among learners and contributes to **affordability of instructional resources are ways** improvised instructional material in home economics enhances of sustainability within a knowledge-based economy. Also, the findings identify that making teaching of concepts more practical for learners, reduction of abstractions, **promotion of innovative and creative thinking and** enhancing critical and problem-solving skills among learners as some of the impact of improvised instructional materials in Home Economics on student learning outcomes for sustainable knowledge-based economy. The study therefore concluded that despite the impact of improvised instructional materials in Home Economics on student learning outcomes there are challenges faced by Home Economics teachers in implementing improvised instructional materials for sustainable knowledge-based economy. Based on the findings, the study recommends that Provision of professional development opportunities for teachers to enhance their improvisation skills in designing and implementing. Also, curriculum reforms should be encouraged in order suit the process and teachers' choice of improvisation of instructional materials.

Keywords: Improvisation, Instructional Materials, and Knowledge-Based-Economy

Corresponding Author: Ozor, P. E.

Background to the Study

Education is widely acknowledged as a vital tool for individual empowerment and national development. According to Ahmad, Abdul, Sani, and Sabo (2019), education forms the foundation for literacy, skill acquisition, the effective use of human and material resources, and the achievement of societal goals. In this context, effective teaching and learning are crucial in developing the skills, abilities, and attitudes necessary for individuals to succeed in a knowledge-based economy. Mirela and Mădălina (2013) assert that the emergence of various educational innovations represents a significant step toward fostering a sustainable knowledge-based economy.

A sustainable knowledge-based economy is one in which knowledge serves as the primary driver of economic growth and development (The World Bank). It is defined as an economic system centered on the production, distribution, and application of knowledge and information (Altacit Global, 2004). This type of economy relies on the efficient utilization of knowledge, intellectual capital, and information to promote both growth and sustainability. Therefore, for a country to thrive in a knowledge-based economy, it must simultaneously enhance its education system, fostering a culture of continuous learning, innovation, and collaboration.

Instructional materials, which refer to teaching aids that teachers use to enhance lesson delivery, play an essential role in this process. According to Obidike (2021), instructional materials help clarify concepts, making them easier for students to understand and aiding in the development of their knowledge and skills. Olawole (2013) further explains that these materials include visual, audio, and audiovisual resources that make abstract ideas more tangible in the teaching and learning process. In the context of Home Economics education in Nigerian tertiary institutions, instructional materials are indispensable, though challenges related to their availability and adequacy persist. As a result, teachers often need to improvise. Improvisation, in this context, becomes crucial, particularly in countries like Nigeria where limited funding hinders the procurement of all necessary equipment and instructional materials. Improvisation involves the local production of materials from the environment to enhance teaching and learning when certain resources are unavailable. As Obodo, Ani, and Thompson (2020) note, improvisation is the use of alternative materials, often sourced from the local environment or created by teachers and local personnel, to facilitate instruction.

Improvisation not only addresses material shortages but also encourages creativity, pride, and satisfaction in students. These qualities are fundamental components of knowledge, which Home Economics education aims to instill in students, preparing them to think critically and resourcefully in emergency situations (Oguh, n.d.). Moreover, improvisation can lead to new discoveries, as it fosters exploration and may uncover additional facts or solutions for future challenges (Onasanya & Adegbija, 2017). Improvised instructional materials also contribute to sustainability within a knowledge-based economy. By promoting sustainable practices, integrating local knowledge, and empowering communities, these materials support the development of critical skills and prepare individuals for careers in a green economy. They play

a pivotal role in fostering a culture of sustainability and innovation, which is essential for tackling global challenges and achieving long-term economic and environmental sustainability. Ahmed (2017) highlights that using indigenous local materials offers a safer, cheaper, and culturally sensitive alternative to factory-produced instructional materials.

When teachers and students use improvised materials, it can lead to the discovery of new knowledge, talents, and creative skills. Bawa and Abdullahi (2019) suggest that improvisation can unlock students' potential in unexpected ways. However, despite the clear advantages of improvisation, challenges remain. Olibie, Nwabunwanne, and Ezenwanne (2015) identify issues such as the difficulty in improvising materials to engage and maintain student enthusiasm, lack of expert assistance and technical support, and the challenge of aligning improvised materials with curriculum guidelines and individual learner needs, particularly in overcrowded classrooms.

This is supported by Olofu and Adeyeye (2021), who note that inadequate institutional support and insufficient knowledge of improvisation present significant challenges. To address these gaps, Obodo, Ani, and Thompson (2020) emphasize the importance of providing professional development opportunities for teachers to enhance their improvisation skills. These opportunities could include workshops, conferences, and online courses, with a focus on curriculum development and instructional design (Anyakoha, 2020). The researcher aims to explore these gaps by investigating the role of instructional material improvisation in Home Economics education as a means of fostering a sustainable knowledge-based economy. By addressing the challenges associated with improvisation, it is possible to enhance the quality of education and better equip students with the skills needed to succeed in an evolving, knowledge-driven economy

Purpose of the study

The main purpose of the study is to examine issues on improvisation of instructional materials in the Teaching of Home Economics in a sustainable Knowledge Based Economy. Specifically, the study sought to:

- i. Ascertain how improvised instructional material in home economics enhances sustainability within a knowledge-based economy?
- ii. Identify the impact of improvised instructional materials in home economics have on student learning outcomes for sustainable knowledge-based economy?
- iii. Identify the challenges faced by Home Economics teachers in implementing improvised instructional materials for sustainable knowledge-based economy?
- iv. Suggest possible solutions to the challenges faced by Home Economics teachers in implementing improvised instructional materials for sustainable knowledge-based economy?

Research Questions

The following research questions guided the study

- i. How do improvised instructional materials in Home Economics enhance

- sustainability within a knowledge-based economy?
- ii. What impact do improvise instructional materials in home economics have on student learning outcomes for sustainable knowledge-based economy?
 - iii. What are the challenges faced by Home Economics teachers in implementing improvised instructional materials for sustainable knowledge-based economy?
 - iv. What are the possible solutions to the challenges faced by Home Economics teachers in implementing improvised instructional materials for sustainable knowledge-based economy?

Methodology

- i. **Research Design:** A descriptive research design was adopted for the study. This design was chosen because it allows for the generalization of the findings to the population using a representative sample (Osuala & Ihekwoaba, 2013). Descriptive research typically employs questionnaires to gather opinions, perceptions, and attitudes on specific issues.
- ii. **Area of the Study:** The study was conducted in Owerri Educational Zone 1 of Imo State.
- iii. **Population for the Study:** The population for this study consists of 2,800 Home Economics students in Owerri Educational Zone 1, Imo State (Source: Imo State Secondary Education Management Board (SEMB), 2024).
- iv. **Sample Size and Sampling Technique:** A purposive sampling technique was used to select 222 participants as the sample size for the study. According to Schensul (2011), this method is appropriate because the researcher has a clear understanding of the characteristics or attributes they wish to study and aims to select a sample that is representative of those characteristics.
- v. **Instrument for Data Collection:** A structured questionnaire was used to collect data for the study.
- vi. **Validation and Reliability of the Instrument:** The instrument was validated by two experts from the Department of Measurement and Evaluation, and one from the Department of Home Economics and Hospitality Management at Alvan Ikoku Federal University of Education, Owerri. Their suggestions were incorporated to improve and enhance the instrument. To establish the internal consistency of the instrument, the test-retest method was employed. The reliability coefficients obtained demonstrated a very high level of reliability.
- vii. **Method of Data Collection and Analysis:** The direct contact method was used for administering the instrument. The data collected was analyzed using descriptive statistics, specifically the mean and standard deviation.

Results

Research Question 1: How do improvised instructional materials in Home Economics enhance sustainability in a knowledge-based economy?

Table 1: Mean and standard deviation responses on how improvised instructional material in home economics enhances of sustainability within a knowledge-based economy

S/N	Improvised instructional material enhances sustainability within a knowledge-based economy as follows:	X	SD	Decision
1	Promotes accessibility of instructional materials	3.25	0.46	Agreed
2	Can lower costs associated with purchasing new materials?	3.21	0.59	Agreed
3	Promotes sustainable behaviors and practices among learners	2.78	1.15	Agreed
4	Contributes to affordability of instructional resources	2.47	0.93	Agreed
5	Promote sustainable behaviors and practices among learners	3.04	0.53	Agreed
6	It makes learning more relevant and engaging for learners.	2.87	0.78	Agreed
7	Enhances local economic development	3.03	0.76	Agreed
8	Encourages creativity and innovation among teachers and student	2.78	0.69	Agreed
9	Reduces the need for resource-intensive production processes	2.34	0.93	Disagreed
10	Encourages the utilization of local suppliers and businesses,	2.19	0.87	Disagreed
Grand Mean and Standard Deviation		2.80	7.7	

Table 1: The table above showed that all the items had mean scores above 2.5 cut off point except item 9 which is reducing the need for resource-intensive production processes. Hence, signifying that all the items were agreed as improvised instructional material in home economics enhances of sustainability within a knowledge-based economy.

Research Question 2: What impact do improvise instructional materials in home economics have on student learning outcomes for sustainable knowledge-based economy?

Table 2: Mean and standard deviation responses on the impact of improvised instructional materials in Home Economics on student learning outcomes for sustainable knowledge-based economy

S/N	Impact of Improvised Instructional Materials in Home Economics on Student Learning Outcomes are as follows	X	SD	Decision
1	makes teaching of concepts more practical for learners	2.65	1.02	Agreed
2	Reduces abstractions	3.21	0.48	
3	Promotes behavioral changes among students	2.71	0.86	Agreed
4	Promotion of innovative and creative thinking:	3.07	0.98	Agreed
5	Enhances critical and problem-solving skills among learners	3.04	0.63	Agreed
6	Helps students understand the importance resource conservation	2.84	0.80	Agreed
7	Encouragement of Lifelong Learning:	3.03	0.76	Agreed
8	Enhances sustainable living practices among students	40	0.87	Agreed
9	Encourages personal growth and independence of the learners	2.78	1.15	Agreed
Grand Mean and Standard Deviation		6.33	7.6	

Table 2: The table above showed that all the items had mean scores above 2.5 cut off point, signifying that all the items were agreed as impact of improvised instructional materials in Home Economics on student learning outcomes for sustainable knowledge-based economy.

Research Question 3: What are the challenges faced by Home Economics teachers in implementing improvised instructional materials for sustainable knowledge-based economy?

Table 3: Mean and standard deviation responses on the challenges faced by Home Economics teachers in implementing improvised instructional materials for sustainable knowledge-based economy.

S/N	Challenges faced by Home Economics teachers in implementing improvised instructional materials in a sustainable knowledge - based economy are as follows	X	SD	Decision
1	Poor alignment with curriculum standards and learning objectives	3.16	0.41	Agreed
2	Insufficient time allotted for use of improvised instructional materials	3.24	0.51	Agreed
3	Poor professional development opportunities for teachers	2.12	1.01	Disagreed
4	Difficulty in Accessing updated Resources	2.67	0.88	Agreed
5	Poor knowledge of the subject matter by teachers	2.72	1.01	Agreed
6	Poor Classroom management and control	2.45	0.88	Disagreed
7	High Cost of resources	2.78	0.94	Agreed
8	Inadequate teacher training	2.81	0.90	Agreed
9	Resistance to change	2.84	0.73	Agreed
10	Indifferent attitude of teachers on the use of improvised instructional materials	3.46	0.71	Agreed
Grand Mean and Standard Deviation		2.83	0.798	

Table 3: The table above showed that all the items had mean scores above 2.5 cut off point, except item 3 and item 6. Signifying that all the items are accepted that there are challenges faced by Home Economics teachers in implementing improvised instructional materials in Home Economics for sustainable knowledge-based economy.

Research Question 4: What are the possible solutions to the challenges faced by Home Economics teachers in implementing improvised instructional materials for sustainable knowledge-based economy?

Table 4: Mean and standard deviation responses on possible solutions to the challenges faced by Home Economics teachers in implementing improvised instructional materials for sustainable knowledge-based economy.

Possible solutions to the challenges faced by Home				
S/N	Economics teachers are as follows	X	SD	Decision
1.	Teachers through professional development	3.33	0.43	Agreed
2.	Access to Instructional resources and materials,	3.18	0.62	Agreed
3	Incorporating digital tools and technologies into instructional material	3.30	0.52	Agreed
4.	Curriculum reform and innovation frameworks	2.89	0.83	Agreed
5.	Continuous Improvement and Feedback	2.84	1.12	Agreed
6.	Use of incentive and teachers' motivation for teachers	2.76	0.94	Agreed
7.	Ensure sustainability of improvised instructional materials	2.92	0.68	Agreed
8	Fostering collaboration among teachers on the use of instructional materials	2.73	0.86	Agreed
9	Engaging local communities and businesses	2.21	0.71	Disagree
10	Ensuring access to technology infrastructure	2.42	0.87	Disagree
Grand Mean and Standard Deviation		2.86	0.76	

Source: Field survey, 2024

Table 4: The table above showed that all the items had mean scores above 2.5 cut off point except item 9 and 10 indicating that all the items were accepted and agreed on possible solutions challenges faced by Home Economics teachers in implementing improvised instructional materials for sustainable knowledge-based economy.

Discussion of Findings

The findings presented in Table 1 demonstrate how improvised instructional materials in Home Economics can enhance sustainability within a knowledge-based economy. The study confirms that promoting the accessibility of instructional materials, reducing costs associated with purchasing new materials, encouraging sustainable behaviors and practices among learners, and contributing to the affordability of instructional resources are key ways in which improvised instructional materials support sustainability within a knowledge-based economy. These findings align with Ahmed (2017), who affirmed that the use of indigenous local materials is a safer, more cost-effective, and culturally sensitive alternative to commercial and factory-produced instructional materials. The results of the study are consistent with the views of Bawa and Abdullahi (2019), who observed that the use of improvised instructional materials can lead to the discovery of new knowledge and the development of students' talents and creative skills, further promoting sustainability.

Table 2 highlights the impact of improvised instructional materials in Home Economics on student learning outcomes for a sustainable knowledge-based economy. The findings identify several key impacts: making concepts more practical for learners, reducing abstract concepts,

fostering innovative and creative thinking, and enhancing critical thinking and problem-solving skills. These findings are in line with the views of Onasanya and Adegbija (2017), who stated that improvisation in instructional materials provides opportunities for exploration and the development of skills among learners. The results also support Oguh's (n.d.) assertion that improvisation encourages creativity and satisfaction in students.

The findings in Table 3 outline the challenges faced by Home Economics teachers in implementing improvised instructional materials for a sustainable knowledge-based economy. Key challenges identified include poor alignment with curriculum standards and learning objectives, insufficient time for using improvised instructional materials, inadequate professional development opportunities for teachers, difficulty in accessing updated resources, limited subject knowledge among teachers, and the high cost of materials. These challenges are consistent with the findings of Olibie, Nwabunwanne, and Ezenwanne (2015), who reported difficulties in aligning improvised materials with curriculum guidelines, staying informed of innovative developments, and addressing individual learner needs in overcrowded classrooms. Furthermore, Olofu and Adeyeye (2021) also emphasized that a lack of institutional support and insufficient knowledge of improvisation are significant challenges.

Table 4 outlines potential solutions to the challenges faced by Home Economics teachers in implementing improvised instructional materials for a sustainable knowledge-based economy. The study identifies several key solutions: providing professional development opportunities for teachers, improving access to instructional resources and materials, incorporating digital tools and technologies into instructional materials, and promoting curriculum reform and innovation. These findings support Obodo and Thompson's (2020) observation that professional development is crucial for enhancing teachers' improvisation skills. Additionally, the study aligns with Anyakoha's (2020) recommendation to intensify efforts in curriculum development and instructional design to better support teachers in their efforts to improve teaching and learning. The findings highlight both the potential benefits and the challenges of using improvised instructional materials in Home Economics education. The study emphasizes the importance of addressing these challenges through professional development, resource access, and curriculum reform to enhance the effectiveness of improvisation and contribute to a sustainable knowledge-based economy.

Conclusion of the Study

Based on the findings, the study concludes that the use of improvised instructional materials in Home Economics significantly contributes to sustainability within a knowledge-based economy. These materials positively impact student learning outcomes by making concepts more practical, enhancing creativity and critical thinking, and fostering problem-solving skills among learners. Furthermore, the use of improvised instructional materials promotes sustainable practices by reducing costs, utilizing local resources, and encouraging environmentally friendly behaviors.

However, despite the numerous benefits, the study also highlights the challenges faced by Home Economics teachers in implementing these materials for a sustainable knowledge-based economy. These challenges include insufficient alignment with curriculum standards, limited access to updated resources, inadequate professional development opportunities for teachers, and a lack of institutional support. To address these challenges, the study offers potential solutions such as providing professional development for teachers, improving access to instructional resources, incorporating digital tools, and promoting curriculum reforms. By addressing these issues, it is possible to enhance the effective use of improvised instructional materials and better support the development of a sustainable knowledge-based economy through Home Economics education.

Recommendations

Based on the discussions, the following recommendations are hereby proffered.

- i. Provision of professional development opportunities for teachers to enhance their improvisation skills in designing and implementing.
- ii. Curriculum reforms should be encouraged in order to suit the process and teacher's choice of instructional materials improvisation.
- iii. Government and other donor agencies should provide and create access to Instructional resources and materials

References

- Ahmad, S. I., Abdul, I., Sani, Y., & Sabo, A. A. (2019). Improvisation in teaching and learning biology in senior secondary schools: Prospects and challenges, *International Journal of Scientific Research*, 5(11), 33-36.
- Ahmed, A. M. (2017). Improvisation of instructional materials for the teaching of biology: An important innovation in the Nigerian educational system, *Undergraduate project submitted to the Department of Biology, Federal College of Education, Kano State*.
- Anyakaorah, D. C. (2020). Improvisation of instructional materials for effective teaching and learning of computer science in junior secondary schools in Ebonyi State, *Unizik Journal of Educational Research and Policy Studies*, 8, 20-29.
- Bawa, N., & Abdullahi, I. A. (2019). Improvisation of instructional materials for innovative second language teaching in the 21st century, *International Journal of Operational Research in Management, Social Sciences, and Education*, 5(1), 230-240.
- Obidike, I. V. (2021). Production and improvisation of instructional materials for effective teaching and learning in early childhood care and education in Nigeria, *Sapientia Foundation Journal of Education, Sciences, and Gender Studies*, 3(2), 243-255.

- Obodo, A. C., Ani, M. I., & Thompson, M. E. (2020). Effects of improvised teaching-learning materials on the academic performance of junior secondary school students in basic science in Enugu State, Nigeria, *IOSR Journal of Research & Method in Education*, 10(4), 23-30.
- Oguh, J. I. (n.d.). An investigation into the use of locally produced instructional materials in the teaching of home economics for sustainable development: A case study in Owerri L.G.A., Imo State. *Journal of Teacher Perspective*.
- Olibie, E. I., Nwabunwanne, C., & Ezenwanne, D. N. (2015). *Teachers' improvisation of instructional materials for Nigerian home economics curriculum delivery*, Challenges and Strategies.
- Olofu, P. A., & Adeyeye, O. T. (2021). Improvisation of instructional materials in the 21st century for effective teaching and learning in tertiary institutions in Nigeria. *BSUJEM*, 3(1).
- Onasanya, S. A., & Adegbija, M. V. (2017). *Practical handbook on instructional media*, Ilorin: Graphcom Publishers.
- Osuala, R. A., & Ihekwoaba, N. C. (2013). *Research and statistics*, Owerri: Fab Publications.
- Schensul, J. (2011). Methodology, methods, and tools in qualitative research. In S. Lapan, M. Quartaroli, & F. Riemer (Eds.), *Qualitative Research* (pp. 69–103). Hoboken: Wiley.