# ASSESSMENT OF THE INTEGRATION OF NUTRITION EDUCATION INTO THE EARLY CHILDHOOD EDUCATION CURRICULUM IN NIGERIAN UNIVERSITIES

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## Abstract

The study investigated the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities. Four research questions guided the study. The study adopted a descriptive survey research design and was carried out in Nigerian universities offering Early Childhood Education programmes. The population of the study comprised Early Childhood Education lecturers in Nigerian universities, from which a sample size of 265 respondents was selected using a simple random sampling technique. Data were collected using a structured questionnaire titled Assessment of Nutrition Education Integration Questionnaire (ANEIQ). The instrument was face-validated by three experts in the Department of Early Childhood and Primary Education, Faculty of Education, University of Nigeria, Nsukka. The reliability of the instrument was established using Cronbach Alpha reliability method, which yielded a reliability coefficient of 0.86. The questionnaire was administered directly to the respondents with the assistance of trained research assistants. Mean and standard deviation were used for data analysis. The decision rule for Research Question One was based on the extent scale, where mean scores of 3.50–4.00 indicated Very High Extent, 2.50–3.49 indicated High Extent, 1.50–2.49 indicated Low Extent, and 1.00–1.49 indicated Very Low Extent, while mean scores of 2.50 and above were accepted as Agreed for other research questions. The findings revealed that nutrition education was integrated into the Early Childhood Education curriculum in Nigerian universities to a high extent. The study also found that contents such as basic nutrients, balanced diet, child feeding practices, food hygiene, and the relationship between nutrition and child development were incorporated into the curriculum. The study recommended that universities should strengthen curriculum review and provide adequate instructional resources to enhance effective nutrition education integration.

**Keywords:** Nutrition education, early childhood education, curriculum integration, teacher education

## Introduction

The increasing demand for quality education that promotes healthy living, lifelong learning, and sustainable national development has heightened the need for the integration of nutrition education into teacher education programmes, particularly Early Childhood Education. Early childhood represents a critical stage of human development where children's physical growth, cognitive ability, emotional stability, social behaviour, and lifelong health practices are established. Experiences acquired during the early years significantly influence children's future learning outcomes, productivity, and general well-being. Therefore, the curriculum designed for preparing early childhood educators is expected to provide prospective teachers with adequate knowledge, skills, and competencies to support children's holistic development, including their nutritional needs.

However, concerns have continued to emerge regarding the extent to which nutrition education is adequately integrated into Early Childhood Education curricula in Nigerian universities, raising questions about the preparedness of future teachers to address nutrition-related challenges among young children.

The university curriculum serves as a major framework for preparing professionals with the competencies required to respond to contemporary social, economic, and health challenges. In teacher education, curriculum content determines the knowledge, skills, attitudes, and professional values acquired by future teachers before entering the teaching profession. The National Universities Commission (2022) emphasized that university curricula should be dynamic, competency-based, and responsive to emerging national and global challenges. Consequently, the preparation of Early Childhood Education teachers should extend beyond pedagogical knowledge to include relevant areas such as child health, nutrition, safety, and well-being. Integrating nutrition education into Early Childhood Education programmes is therefore essential because teachers serve as important agents in promoting healthy behaviours, guiding children's food choices, and supporting parents and communities in addressing nutrition-related issues.

Early Childhood Education is the educational programme designed to provide appropriate learning experiences and care for children from birth to the early primary school years. It emphasizes the physical, intellectual, emotional, social, moral, and language development of children through developmentally appropriate activities. According to the United Nations Educational, Scientific and Cultural Organization (2024), quality Early Childhood Education combines early learning, health, nutrition, protection, and responsive care to ensure children's comprehensive development. Similarly, the National Universities Commission (2022) stated that Early Childhood Education programmes in Nigerian universities are structured to prepare competent teachers with professional knowledge and practical skills required for effective teaching and child development. The United Nations Children's Fund (2023) further noted that quality early childhood programmes contribute significantly to school readiness, improved health outcomes, and children's future educational success. In this study, Early Childhood Education refers to the university programme designed to prepare prospective teachers with the competencies required for effective teaching and promotion of children's overall development.

Nutrition education is an important component of child development because adequate nutrition influences children's physical growth, brain development, learning ability, and general well-being. Nutrition education involves a planned process through which individuals acquire knowledge, skills, attitudes, and practices necessary for making informed food choices and maintaining healthy dietary behaviours. The Food and Agriculture Organization of the United Nations (2023) described nutrition education as an educational process that improves knowledge, attitudes, and practices relating to healthy diets and food choices. The World Health Organization (2024) emphasized that nutrition education plays a significant role in preventing malnutrition, promoting healthy growth, and improving quality of life. Similarly, the United Nations Children's Fund (2023) explained that nutrition education equips caregivers, teachers, and communities with the competencies required to promote healthy feeding practices among children. Operationally, nutrition education in this study refers to the nutrition-related knowledge, skills, and learning experiences incorporated into the Early Childhood Education curriculum to prepare future teachers for promoting healthy nutritional practices among young children.

The importance of nutrition education during early childhood cannot be overemphasized because nutrition is closely associated with children's cognitive development, academic performance, and overall health status. Poor nutrition during the early years may negatively affect children's concentration, school participation, immunity,

and learning capacity. According to the World Health Organization (2024), adequate nutrition during childhood is essential for optimal physical, mental, and social development. The United Nations Children's Fund (2023) also identified childhood nutrition as a critical investment that improves survival, educational attainment, and future productivity. Therefore, preparing early childhood educators with adequate nutrition knowledge is necessary to enable them to identify nutrition challenges, promote healthy eating habits, and collaborate with families and communities to improve children's nutritional outcomes.

The integration of nutrition education into the Early Childhood Education curriculum has become increasingly important because teachers are among the first professional groups that interact with children outside the home environment. Early childhood educators influence children's attitudes towards food, hygiene, healthy lifestyles, and personal well-being. When nutrition education is embedded into teacher preparation programmes, graduates are more likely to possess the competencies needed to support school-based nutrition activities, educate parents, and create healthy classroom environments. The Food and Agriculture Organization of the United Nations (2023) maintained that integrating nutrition education into formal education contributes to improved food literacy and sustainable health practices. Similarly, the United Nations Educational, Scientific and Cultural Organization (2025) advocated curriculum reforms that incorporate health and nutrition education to strengthen teacher preparation and improve educational quality.

Furthermore, integrating nutrition education into Early Childhood Education aligns with global efforts towards sustainable development. Nutrition education contributes directly to the achievement of Sustainable Development Goal Two (Zero Hunger), Sustainable Development Goal Three (Good Health and Well-being), and Sustainable Development Goal Four (Quality Education). Through effective curriculum integration, future early childhood educators can acquire competencies that enable them to support healthy development, improve children's learning experiences, and contribute to healthier communities. This makes nutrition education an essential component of contemporary teacher education programmes. Despite the recognized importance of nutrition education, evidence suggests that its integration into teacher education programmes remains inadequate in many higher education institutions. Challenges such as curriculum overload, inadequate instructional resources, limited practical experiences, insufficient collaboration between education and health professionals, and inadequate preparation of lecturers may affect effective implementation. Consequently, some graduates of Early Childhood Education programmes may possess limited competencies in nutrition education, reducing their ability to address nutrition-related challenges among young children. This situation highlights the need for continuous curriculum assessment to determine the extent to which nutrition education is incorporated into Early Childhood Education programmes.

Empirical studies have emphasized the significance of curriculum integration and effective implementation in higher education. Agbaje (2023) reported that curriculum reform in African higher education should respond to emerging societal needs through interdisciplinary approaches. Fasinro, Akinkuotu, and Aina (2024) found that effective curriculum implementation requires relevant content, adequate resources, and appropriate instructional strategies. Al-Mamary (2024) noted that effective management practices support institutional performance and quality educational outcomes. Hong Yang (2025) further observed that curriculum reforms require collaboration, continuous review, and stakeholder participation to achieve meaningful outcomes. Mugambi and Matula (2025)

also established that strategic curriculum management enhances successful curriculum implementation in higher education institutions. From the researcher's personal observations and review of available empirical studies, limited attention has been given to the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities. Existing studies have largely focused on curriculum implementation, educational reforms, child nutrition interventions, or general teacher preparation, with little emphasis on assessing nutrition education content within Early Childhood Education programmes. To the best of the researcher's knowledge, no known study has specifically assessed the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities. It is against this background that the present study seeks to assess the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities.

**Statement of the Problem**

The preparation of competent Early Childhood Education teachers requires a curriculum that responds to the holistic needs of young children, including their educational, health, and nutritional development. Ideally, the Early Childhood Education curriculum in Nigerian universities should adequately integrate nutrition education to equip prospective teachers with the knowledge, skills, and competencies required to promote healthy feeding practices, identify nutrition-related challenges, and support the physical and cognitive development of children. Such integration is expected to strengthen teachers' professional capacity and enhance the quality of early childhood services provided in schools and communities. However, the current situation appears to indicate that nutrition education may not have received adequate attention within the Early Childhood Education curriculum in some Nigerian universities. Despite the increasing concern about childhood malnutrition, poor dietary practices, and health-related challenges among young children, many Early Childhood Education graduates may not possess sufficient nutrition-related competencies required for effective classroom practice and child health promotion. The limited emphasis on nutrition education, inadequate curriculum content, insufficient instructional resources, and possible gaps in teacher preparation may affect the ability of early childhood educators to address nutrition concerns among young learners. The problem of this study, therefore, is that the extent to which nutrition education has been integrated into the Early Childhood Education curriculum in Nigerian universities remains unclear. Without adequate evidence on the presence, content, and implementation of nutrition education within the curriculum, it becomes difficult to determine whether prospective early childhood educators are sufficiently prepared to promote healthy nutritional practices among children. Hence, the study seeks to assess the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities.

**Purpose of the Study**

The main purpose of this study is to assess the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities. Specifically, the study seeks to:

1. Assess the extent to which nutrition education is integrated into the Early Childhood Education curriculum in Nigerian universities.
2. Identify the nutrition education contents integrated into the Early Childhood Education curriculum in Nigerian universities.

3. Determine the teaching strategies adopted for integrating nutrition education into the Early Childhood Education curriculum in Nigerian universities.
4. Identify the challenges affecting the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities.

**Research Questions**

The following research questions will guide the study:

1. To what extent is nutrition education integrated into the Early Childhood Education curriculum in Nigerian universities?
2. What nutrition education contents are integrated into the Early Childhood Education curriculum in Nigerian universities?
3. What teaching strategies are adopted for integrating nutrition education into the Early Childhood Education curriculum in Nigerian universities?
4. What challenges affect the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities?

**Methods**

The study adopted a descriptive survey research design because it sought to assess the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities. The study was carried out in Nigerian universities offering Early Childhood Education programmes. The population of the study comprised Early Childhood Education lecturers in Nigerian universities. A sample size of 265 respondents was selected using a simple random sampling technique. The sampling technique ensured that every member of the population had an equal opportunity of being selected for the study. Data were collected using a structured questionnaire titled Assessment of Nutrition Education Integration Questionnaire (ANEIQ). The instrument was organized into sections based on the objectives of the study and structured on a four-point rating scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE), and Very Low Extent (VLE) for assessing the extent of integration, while other sections adopted Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) for identifying contents, teaching strategies, and challenges. The instrument was face-validated by three experts in the Department of Early Childhood and Primary Education, Faculty of Education, University of Nigeria, Nsukka. Their observations and suggestions were used to improve the relevance, clarity, and adequacy of the instrument before final administration. The reliability of the instrument was established through a pilot study conducted outside the study area. The data obtained were analyzed using Cronbach Alpha reliability method, which yielded a reliability coefficient of 0.86, indicating that the instrument was reliable for the study. The researcher administered the questionnaire directly to the respondents with the assistance of trained research assistants. The completed copies were retrieved immediately after completion to ensure a high return rate. The data collected were analyzed using mean and standard deviation to answer the research questions. For Research Question One, the decision rule was based on the extent scale: mean scores of 3.50–4.00 were interpreted as Very High Extent, 2.50–3.49 as High Extent, 1.50–2.49 as Low Extent, and 1.00–1.49 as Very Low Extent. For Research Questions Two to Four, mean scores of 2.50 and above were interpreted as Agreed (A), while mean scores below 2.50 were interpreted as Disagreed (D).

**Results**

**Table 1: Mean and Standard Deviation of Respondents on the Extent to which Nutrition Education is Integrated into the Early Childhood Education Curriculum in Nigerian Universities**

| S/N | Item Statement | $\bar{X}$ | SD | Decision |
|---|---|---|---|---|
| 1 | Nutrition education concepts are integrated into the Early Childhood Education curriculum in Nigerian universities. | 3.45 | 0.62 | High Extent |
| 2 | The curriculum provides adequate knowledge of basic nutrition principles for Early Childhood Education students. | 3.38 | 0.67 | High Extent |
| 3 | Nutrition education is included as part of the learning experiences for prospective early childhood educators. | 3.41 | 0.64 | High Extent |
| 4 | The curriculum exposes students to the relationship between nutrition and children's growth and development. | 3.52 | 0.58 | Very High Extent |
| 5 | Nutrition education receives adequate attention during the preparation of Early Childhood Education students. | 3.21 | 0.73 | High Extent |
| 6 | The curriculum prepares future early childhood educators to promote healthy eating practices among children. | 3.35 | 0.69 | High Extent |
| 7 | Nutrition-related topics are reflected in relevant courses offered in Early Childhood Education programmes. | 3.40 | 0.65 | High Extent |
| 8 | Nutrition education content is reviewed periodically to reflect current child health and nutritional needs. | 3.18 | 0.76 | High Extent |
| | **Grand Mean** | **3.36** | **0.67** | **High Extent** |

The result presented in Table 1 revealed that nutrition education is integrated into the Early Childhood Education curriculum in Nigerian universities to a high extent, as indicated by the grand mean of 3.36 and a grand standard deviation of 0.67. The relatively low standard deviation suggests that the respondents had a high level of agreement in their ratings. Specifically, the highest-rated item was that the curriculum exposes students to the relationship between nutrition and children's growth and development ($\bar{X}$ = 3.52, SD = 0.58), indicating a very high extent of integration and strong consensus among the respondents. Conversely, the lowest-rated item was that nutrition education content is reviewed periodically to reflect current child health and nutritional needs ($\bar{X}$ = 3.18, SD = 0.76), although it was still rated to a high extent. The relatively higher standard deviation for this item indicates slightly greater variation in respondents' opinions. Overall, the findings suggest that nutrition education is well integrated into the Early Childhood Education curriculum in Nigerian universities, with respondents expressing considerable agreement regarding the inclusion of nutrition-related concepts and learning experiences.

**Table 2: Mean and Standard Deviation of Respondents on the Nutrition Education Contents Integrated into the Early Childhood Education Curriculum in Nigerian Universities**

| S/N | Item Statement | $\bar{X}$ | SD | Decision |
|---|---|---|---|---|
| 1 | Basic nutrients and their functions are included in the Early Childhood Education curriculum. | 3.48 | 0.61 | A |
| 2 | Balanced diet and healthy eating practices are integrated into the curriculum. | 3.55 | 0.56 | A |

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| 3 | Child feeding practices and nutritional requirements of young children are included in the curriculum. | 3.46 | 0.63 | A |
| 4 | Food hygiene and safety practices are incorporated into the curriculum. | 3.39 | 0.67 | A |
| 5 | The curriculum includes knowledge of malnutrition, its causes, and prevention strategies. | 3.31 | 0.71 | A |
| 6 | Nutrition-related health challenges affecting children are included in the curriculum. | 3.35 | 0.69 | A |
| 7 | The relationship between nutrition and children's growth and development is emphasized in the curriculum. | 3.52 | 0.58 | A |
| 8 | Practical nutrition activities and food-related learning experiences are included in the curriculum. | 3.22 | 0.74 | A |
| | **Grand Mean** | **3.41** | **0.65** | **A** |

The result presented in Table 2 revealed that respondents agreed that nutrition education contents are integrated into the Early Childhood Education curriculum in Nigerian universities, as indicated by the grand mean of 3.41 and a grand standard deviation of 0.65. The relatively low standard deviation indicates that the respondents expressed a high level of agreement in their responses. Specifically, the highest-rated item was that balanced diet and healthy eating practices are integrated into the curriculum ($\bar{X}$ = 3.55, SD = 0.56), followed closely by the emphasis on the relationship between nutrition and children's growth and development ($\bar{X}$ = 3.52, SD = 0.58). These findings indicate strong consensus that these important nutrition concepts are adequately covered in the curriculum. The lowest-rated item was the inclusion of practical nutrition activities and food-related learning experiences ($\bar{X}$ = 3.22, SD = 0.74), although respondents still agreed that it is part of the curriculum. The relatively higher standard deviation for this item suggests slightly greater variation in respondents' opinions. Overall, the findings indicate that the Early Childhood Education curriculum in Nigerian universities incorporates a broad range of nutrition education contents that equip prospective educators with the knowledge needed to promote children's health, growth, and development, while highlighting the need to strengthen practical nutrition learning experiences.

**Table 3: Mean and Standard Deviation of Respondents on the Teaching Strategies Adopted for Integrating Nutrition Education into the Early Childhood Education Curriculum in Nigerian Universities**

| S/N | Items | $\bar{X}$ | SD | Decision |
|---|---|---|---|---|
| 1 | Lectures are used for teaching nutrition education concepts in Early Childhood Education programmes. | 3.56 | 0.55 | A |
| 2 | Group discussions are adopted to enhance students' understanding of nutrition-related issues. | 3.42 | 0.63 | A |
| 3 | Demonstration methods are used to explain practical nutrition concepts. | 3.38 | 0.66 | A |
| 4 | Practical activities are organized to expose students to nutrition application skills. | 3.25 | 0.72 | A |
| 5 | Assignment and project-based learning are used to develop students' nutrition knowledge. | 3.31 | 0.69 | A |
| 6 | Field experiences and community-based activities are used in teaching nutrition education. | 3.18 | 0.76 | A |
| 7 | Audio-visual and digital instructional resources are used to | 3.27 | 0.71 | A |

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| | support nutrition education delivery. | | | |
| 8 | Collaborative learning approaches are used to improve students' understanding of nutrition education. | 3.36 | 0.67 | A |
| | **Grand Mean** | **3.34** | **0.67** | **A** |

The result presented in Table 3 revealed that respondents agreed that various teaching strategies are adopted for integrating nutrition education into the Early Childhood Education curriculum in Nigerian universities, as indicated by the grand mean of 3.34 and a grand standard deviation of 0.67. The relatively low standard deviation indicates that the respondents had a considerable level of agreement in their responses. Specifically, the highest-rated teaching strategy was the use of lectures for teaching nutrition education concepts ($\bar{X}$ = 3.56, SD = 0.55), indicating strong agreement that lectures remain the predominant instructional approach in nutrition education. Respondents also agreed that group discussions, demonstrations, collaborative learning, assignments, practical activities, field experiences, and the use of audio-visual and digital instructional resources are employed in teaching nutrition education. The lowest-rated item was the use of field experiences and community-based activities ($\bar{X}$ = 3.18, SD = 0.76), although it was still rated as agreed. The relatively higher standard deviation for this item suggests slightly greater variation in respondents' opinions regarding its use. Overall, the findings indicate that both conventional and learner-centred teaching strategies are utilized in integrating nutrition education into the Early Childhood Education curriculum. However, greater emphasis on experiential learning strategies, such as field experiences and community-based activities, is needed to strengthen the practical application of nutrition knowledge among prospective early childhood educators.

**Table 4: Mean and Standard Deviation of Respondents on the Challenges Affecting the Integration of Nutrition Education into the Early Childhood Education Curriculum in Nigerian Universities**

| S/N | Items | $\bar{X}$ | SD | Decision |
|---|---|---|---|---|
| 1 | Inadequate instructional materials affect the integration of nutrition education into the curriculum. | 3.52 | 0.57 | A |
| 2 | Limited curriculum space affects the inclusion of nutrition education contents. | 3.44 | 0.63 | A |
| 3 | Inadequate practical experiences hinder effective teaching of nutrition education. | 3.48 | 0.60 | A |
| 4 | Limited collaboration between Early Childhood Education and nutrition experts affects curriculum integration. | 3.39 | 0.66 | A |
| 5 | Insufficient knowledge and training among lecturers affect effective delivery of nutrition education. | 3.35 | 0.69 | A |
| 6 | Inadequate funding affects the implementation of nutrition education activities. | 3.41 | 0.64 | A |
| 7 | Limited availability of digital and instructional resources affects nutrition education delivery. | 3.37 | 0.68 | A |
| 8 | Lack of regular curriculum review affects effective integration of nutrition education. | 3.46 | 0.61 | A |
| | **Grand Mean** | **3.43** | **0.64** | **A** |

The result presented in Table 4 revealed that respondents agreed that several challenges affect the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities, as indicated by the grand mean of 3.43 and a grand standard deviation of 0.64. The relatively low standard deviation indicates that the

respondents expressed a high level of agreement in their ratings. Specifically, the highest-rated challenge was inadequate instructional materials affecting the integration of nutrition education into the curriculum ($\bar{X}$ = 3.52, SD = 0.57), indicating strong consensus that the availability of teaching and learning resources is essential for effective curriculum implementation. This was followed by inadequate practical experiences ($\bar{X}$ = 3.48, SD = 0.60) and lack of regular curriculum review ($\bar{X}$ = 3.46, SD = 0.61), which were also identified as major constraints. The lowest-rated challenge was insufficient knowledge and training among lecturers ($\bar{X}$ = 3.35, SD = 0.69), although respondents still agreed that it affects the effective delivery of nutrition education. The relatively higher standard deviation for this item suggests slightly greater variation in respondents' opinions. Overall, the findings indicate that inadequate instructional resources, limited curriculum space, insufficient practical experiences, weak collaboration between Early Childhood Education and nutrition experts, inadequate funding, limited digital resources, and irregular curriculum review constitute significant challenges to the effective integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities. These findings underscore the need for improved institutional support, adequate resource provision, enhanced lecturer capacity, and periodic curriculum review to strengthen nutrition education in teacher preparation programmes.

**Discussion of the Findings**

The findings of the study revealed that nutrition education is integrated into the Early Childhood Education curriculum in Nigerian universities to a considerable extent. The respondents indicated that nutrition-related concepts, principles of healthy eating, child feeding practices, and basic nutrition knowledge are included in the curriculum content of Early Childhood Education programmes. This finding suggests that universities recognize the importance of preparing future early childhood educators with competencies required to promote children's health and nutritional well-being. The finding agrees with the position of the United Nations Educational, Scientific and Cultural Organization (2024), which emphasized that quality Early Childhood Education should incorporate health, nutrition, protection, and learning experiences to support children's holistic development. Similarly, the United Nations Children's Fund (2023) noted that integrating nutrition-related knowledge into early childhood programmes strengthens teachers' ability to support healthy growth and development among children. The finding also supports the assertion of the Food and Agriculture Organization of the United Nations (2023) that nutrition education within formal education systems contributes to improved food literacy and healthier lifestyle practices.

The findings further revealed that nutrition education contents integrated into the Early Childhood Education curriculum include basic nutrients and their functions, child feeding practices, food hygiene and safety, balanced diet, nutrition-related health issues, and the relationship between nutrition and child development. This implies that the curriculum provides prospective early childhood educators with foundational knowledge required for promoting healthy nutritional behaviours among young children. The finding is consistent with the view of the World Health Organization (2024), which identified nutrition knowledge, healthy dietary practices, and prevention of malnutrition as essential components of nutrition education. The finding also agrees with Agbaje (2023), who stated that curriculum reforms in higher education should respond to emerging societal needs by incorporating relevant interdisciplinary knowledge areas. Therefore, the inclusion of nutrition education content in Early Childhood Education programmes

reflects the need for teacher preparation programmes to address contemporary health and developmental challenges affecting children.

The study also found that various teaching strategies are adopted for integrating nutrition education into the Early Childhood Education curriculum in Nigerian universities. The respondents identified strategies such as lectures, discussions, demonstrations, practical activities, assignments, and field-based learning experiences as approaches used in teaching nutrition-related concepts. This finding indicates that effective teaching strategies are necessary to ensure that prospective teachers do not only acquire theoretical knowledge but also develop practical competencies for promoting nutrition education among children. The finding supports Al-Mamary (2024), who maintained that effective educational practices require appropriate instructional approaches and management strategies that enhance learning outcomes. Similarly, Hong Yang (2025) emphasized that successful curriculum implementation requires innovative teaching approaches, stakeholder engagement, and continuous improvement in instructional practices. The finding also aligns with Fasinro, Akinkuotu, and Aina (2024), who reported that effective curriculum implementation depends on the availability of appropriate instructional strategies and resources that facilitate meaningful learning experiences.

The findings further revealed that several challenges affect the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities. The challenges identified include inadequate curriculum emphasis, insufficient instructional materials, limited practical experiences, inadequate collaboration between education and nutrition experts, and possible gaps in lecturers' preparation. This finding suggests that although nutrition education may exist within Early Childhood Education programmes, certain institutional and curriculum-related factors may limit its effective implementation. The finding is in agreement with Mugambi and Matula (2025), who observed that curriculum implementation in higher education is often affected by inadequate planning, limited resources, and weak institutional support systems. Similarly, Fasinro, Akinkuotu, and Aina (2024) emphasized that curriculum effectiveness depends largely on adequate resources, proper implementation strategies, and institutional commitment. The finding also supports the position of the United Nations Educational, Scientific and Cultural Organization (2025), which stressed the importance of continuous curriculum review, monitoring, and quality assurance in improving educational programmes.

Generally, the findings indicate that while nutrition education has been integrated into the Early Childhood Education curriculum in Nigerian universities, there is a need for continuous improvement in curriculum content, instructional strategies, and implementation support systems. Strengthening collaboration between Early Childhood Education specialists and nutrition professionals, improving instructional resources, and providing continuous professional development for lecturers will enhance the effectiveness of nutrition education integration. This supports the position of the Food and Agriculture Organization of the United Nations (2023) and the United Nations Children's Fund (2023) that effective nutrition education requires coordinated efforts among educational institutions, health professionals, and communities to achieve improved nutritional outcomes for children. The present study therefore contributes to knowledge by providing empirical evidence on the status of nutrition education integration within Early Childhood Education curricula in Nigerian universities.

**Educational Implications of the Study**

The findings of the study imply that integrating nutrition education into Early Childhood Education curricula can improve the preparation of future early childhood educators. Adequate nutrition knowledge among teachers will enhance their ability to promote healthy eating practices, support children's growth and development, and contribute to improved learning outcomes. The study also implies the need for curriculum improvement, adequate instructional resources, and capacity building for lecturers to strengthen nutrition education delivery in Nigerian universities.

**Contribution to Knowledge**

The study contributed to knowledge by providing empirical evidence on the integration of nutrition education into the Early Childhood Education curriculum in Nigerian universities. It revealed the nutrition contents incorporated into the curriculum, the teaching strategies adopted, and the challenges affecting effective integration. The study provides useful information for curriculum planners, university administrators, and Early Childhood Education stakeholders in strengthening teacher preparation programmes and improving nutrition-related competencies among future educators.

**Conclusion**

Based on the findings of the study, it was concluded that nutrition education is integrated into the Early Childhood Education curriculum in Nigerian universities to a considerable level. The study established that nutrition contents such as basic nutrients, balanced diet, child feeding practices, food hygiene, and the relationship between nutrition and child development are included in the curriculum. It was also concluded that teaching strategies such as lectures, discussions, demonstrations, and practical activities are adopted in delivering nutrition education. However, challenges such as inadequate instructional materials, limited practical experiences, insufficient funding, and inadequate collaboration between education and nutrition specialists affect effective integration. Therefore, strengthening curriculum review, resource provision, and professional support is necessary to enhance nutrition education in Early Childhood Education programmes.

**Recommendations**

Based on the findings of the study, the following recommendations are made:

1. University authorities should strengthen the integration of nutrition education into the Early Childhood Education curriculum to ensure that prospective teachers acquire adequate competencies for promoting children's health and well-being.
2. Curriculum planners should ensure regular review and updating of nutrition education contents to reflect current scientific knowledge and emerging nutritional challenges affecting children.
3. Universities should provide adequate instructional materials, practical resources, and learning facilities to support effective teaching and learning of nutrition education.
4. Early Childhood Education departments should encourage collaboration with nutrition experts to improve the quality and practical relevance of nutrition education delivery.
5. Lecturers should adopt more practical and experiential teaching strategies, including demonstrations, field activities, and community-based learning, to enhance students' application of nutrition knowledge.

**REFERENCES**

Agbaje, O. (2023). Curriculum reform in African higher education: Solving society's problems and meeting its needs. *Curriculum Perspectives, 43*(Suppl. 1), 141–149. https://doi.org/10.1007/s41297-023-00206-x

Al-Mamary, Y. H. S. (2024). The role of management practices in enhancing organizational performance: A systematic review. *Journal of Open Innovation: Technology, Market, and Complexity, 10*(1), Article 100214.

Fasinro, K. S., Akinkuotu, F. A., & Aina, J. O. (2024). Curriculum implementation: Challenges and the prospect of education resource centres to aid effective implementation. *African Educational Research Journal, 12*(1), 1–5.

Food and Agriculture Organization of the United Nations. (2023). *Nutrition education and awareness for healthy diets and sustainable food systems*. FAO.

Hong Yang, H. (2025). Leading programme curriculum reform: Reflections on challenges and successes. *Educational Action Research, 33*(5), 852–870. https://doi.org/10.1080/09650792.2024.2385410

Mugambi, M. M., & Matula, P. D. (2025). Application of Kotter's 8-step change management model and administrative strategies for effective curriculum change in universities: A systematic literature review. *International Journal of Research and Innovation in Social Science, 9*(1), 3490–3501. https://doi.org/10.47772/IJRISS.2025.9010277

National Universities Commission. (2022). *Core curriculum and minimum academic standards (CCMAS) for Nigerian universities*. National Universities Commission.

United Nations Children's Fund. (2023). *Improving child nutrition: The achievable imperative for global progress*. UNICEF.

United Nations Educational, Scientific and Cultural Organization. (2024). *Global report on early childhood care and education: The right to a strong foundation*. UNESCO.

United Nations Educational, Scientific and Cultural Organization. (2025). *Education management, monitoring and evaluation for quality improvement*. UNESCO.

World Health Organization. (2024). *Healthy diet: Fact sheet*. World Health Organization.

World Health Organization. (2024). *Guideline on the prevention and management of wasting and nutritional care among children under five years*. World Health Organization.