

IMPLEMENTATION OF ENTREPRENEURSHIP EDUCATION CURRICULUM USING OPEN EDUCATIONAL RESOURCES (OER) FOR SUSTAINABLE DEVELOPMENT IN PUBLIC SECONDARY SCHOOLS IN NSUKKA EDUCATION ZONE, ENUGU STATE

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Abstract

The study investigated the implementation of entrepreneurship education curriculum using Open Educational Resources for sustainable development in public secondary schools in Nsukka Education Zone, Enugu State. Four research questions guided the study. The study adopted a descriptive survey research design and was carried out in Nsukka Education Zone of Enugu State, Nigeria. The population of the study comprised 4,560 teachers in public secondary schools, from which a sample size of 368 teachers, representing 8.1% of the population, was selected using a proportionate stratified random sampling technique. Data were collected using a structured questionnaire, titled: “Entrepreneurship Education Curriculum Implementation Using Open Educational Resources Questionnaire (EECIOERQ)”. The instrument was validated by three experts in the Faculty of Education, University of Nigeria, Nsukka. Reliability was established using Cronbach Alpha method, which yielded a coefficient of 0.84, indicating that the instrument was reliable for the study. The questionnaire was administered directly to the respondents with the assistance of trained research assistants. Data collected were analyzed using mean and standard deviation, and the decision rule was based on a four-point rating scale where a mean score of 2.50 and above was accepted, while a mean score below 2.50 was rejected. The findings revealed that entrepreneurship education curriculum was implemented using Open Educational Resources to a high extent in public secondary schools in Nsukka Education Zone. The findings also revealed that electronic textbooks, digital lesson materials, online instructional videos, educational websites, and multimedia resources were available for implementing entrepreneurship education curriculum. However, inadequate computers, poor internet connectivity, insufficient teachers’ digital competencies, irregular electricity supply, and inadequate funding were identified as challenges affecting effective implementation. The study recommended among others that government and relevant educational stakeholders should provide adequate digital facilities, improve internet access, and organize regular capacity-building programmes for teachers on the utilization of Open Educational Resources.

Keywords: Entrepreneurship education, curriculum implementation, OER, sustainable development

Introduction

The growing concern over the inability of many secondary school graduates to acquire practical entrepreneurial competencies required for self-employment and sustainable livelihoods has continued to attract the attention of governments, educators, curriculum planners, and development agencies across the world. Despite the inclusion of entrepreneurship education in school curricula and the increasing availability of digital learning resources, there are concerns that the expected transformation in learners’ entrepreneurial competencies has not been fully achieved. This concern has raised

questions about how entrepreneurship education curriculum is being implemented in schools and the extent to which innovative instructional resources are being utilized to improve teaching and learning. The situation has become more worrisome in developing countries, including Nigeria, where unemployment, poverty, and youth dependency continue to pose serious challenges to sustainable national development (United Nations Educational, Scientific and Cultural Organization, 2019; International Labour Organization, 2023).

Globally, education has increasingly been recognized as a strategic instrument for preparing learners with the knowledge, skills, values, and competencies needed to address contemporary social and economic challenges. Consequently, many countries have adopted curriculum reforms aimed at promoting innovation, creativity, digital literacy, and entrepreneurial competencies among learners. The United Nations Educational, Scientific and Cultural Organization (2019) emphasized that quality education should empower learners to become innovative, productive, and capable of contributing to sustainable development. Similarly, the Organisation for Economic Co-operation and Development (2020) maintained that education systems should provide learners with opportunities to develop practical competencies that enable them to adapt to changing labour market demands and contribute meaningfully to society.

In Nigeria, entrepreneurship education has become an important component of educational reforms designed to equip learners with practical competencies that will enhance self-reliance and reduce dependence on white-collar employment. The Federal Government of Nigeria has consistently emphasized the need for educational programmes that promote innovation, creativity, and skill acquisition among learners. The Federal Republic of Nigeria (2014), through the National Policy on Education, advocates educational programmes that prepare learners for useful living within society and encourage the acquisition of appropriate knowledge and practical skills for national development. Despite these policy provisions, evidence from previous studies suggests that many secondary school graduates still leave school without adequate entrepreneurial competencies needed to create employment opportunities or successfully participate in the modern economy (Ossai, Eze, Chineke and Uwakwe, 2020; Junaidu, 2020).

The increasing advancement in digital technology has provided educational institutions with opportunities to improve curriculum delivery through innovative instructional approaches and freely accessible learning resources. Across many countries, schools are increasingly integrating technology-supported instructional resources into classroom teaching to improve learning outcomes, increase access to educational materials, and promote learner-centred instruction. The United Nations Educational, Scientific and Cultural Organization (2019) noted that digital learning resources have become essential tools for expanding educational access, improving instructional quality, and supporting inclusive and lifelong learning. Consequently, educational systems are expected to maximize these opportunities to strengthen curriculum implementation and improve students' learning experiences.

However, observations within many public secondary schools in Nigeria suggest that the integration of digital instructional resources into classroom teaching has not yet reached the expected level. Challenges relating to inadequate digital infrastructure, unstable electricity supply, poor internet connectivity, inadequate funding, limited access to digital learning materials, and insufficient teacher capacity continue to affect effective curriculum implementation in many schools (Federal Ministry of Education, 2022; United Nations Educational, Scientific and Cultural Organization, 2023). These challenges may

also influence the implementation of entrepreneurship education curriculum in public secondary schools, particularly in educational zones where disparities in instructional resources and technological facilities still exist.

Within Nsukka Education Zone of Enugu State, public secondary schools continue to operate under varying levels of technological preparedness and instructional resource availability. While some schools have made appreciable progress in adopting technology for teaching and learning, others still experience challenges that may hinder effective curriculum implementation. Considering the importance of entrepreneurship education in promoting innovation, self-reliance, and sustainable development, there is a need to examine how the entrepreneurship education curriculum is being implemented using Open Educational Resources in public secondary schools in Nsukka Education Zone, Enugu State. Empirical evidence from such a study will provide useful information for educational planners, school administrators, curriculum developers, teachers, and policymakers in improving curriculum implementation and strengthening entrepreneurship education for sustainable development.

The increasing complexity of the global economy, rapid technological advancement, rising youth unemployment, and persistent poverty have compelled many nations to reconsider the role of education in preparing individuals for productive and self-reliant living. Consequently, entrepreneurship education has become one of the major educational reforms introduced across different levels of education to equip learners with entrepreneurial competencies capable of promoting innovation, wealth creation, employment generation, and sustainable economic growth. The increasing emphasis on entrepreneurship education is based on the realization that conventional education, which primarily prepares learners for paid employment, is no longer sufficient to address the contemporary socio-economic challenges confronting many developing countries, including Nigeria. Entrepreneurship education therefore seeks to develop learners who are creative, innovative, enterprising, and capable of identifying and exploiting opportunities for personal and national development. Afolabi and Alao (2012) defined entrepreneurship education as a field of study that seeks to provide learners with the knowledge, skills, attitudes, and motivation required to encourage entrepreneurial success in different settings. According to the authors, entrepreneurship education exposes learners to learning experiences that enable them to recognize opportunities, develop innovative ideas, and transform such ideas into productive ventures. Alberti, Sciscia and Poli (2004) viewed entrepreneurship education as the structured and formal process of developing entrepreneurial competencies through organized teaching and learning experiences. They explained that entrepreneurship education encourages creativity, innovation, investment, and value creation capable of improving both individual and societal well-being. Similarly, Dike, Nwankwo and Ofodum (2020) described entrepreneurship education as an educational programme that equips learners with entrepreneurial knowledge, practical skills, attitudes, values, and competencies required for self-employment, wealth creation, and national development. According to the authors, entrepreneurship education has continued to gain international recognition because of its ability to produce innovative individuals capable of addressing socio-economic challenges.

The definitions presented above indicate that entrepreneurship education extends beyond teaching learners how to establish business enterprises. Rather, it is an educational process aimed at developing entrepreneurial mindsets, creativity, innovation, critical thinking, leadership, problem-solving abilities, communication skills, resilience, and the confidence required to create value in society. Entrepreneurship education therefore

prepares learners not only for self-employment but also for productive participation in both public and private sectors of the economy. The importance of entrepreneurship education has continued to attract global attention because of its contribution to employment generation, poverty reduction, economic diversification, innovation, and national development. According to the United Nations Educational, Scientific and Cultural Organization, cited in Ogele, Ishiwu and Onwuka (2020), entrepreneurship education provides learners with opportunities to acquire business knowledge, occupational competencies, and practical skills required for productive engagement in the world of work. It equally enables learners to make informed career choices, understand business operations, and develop entrepreneurial attitudes necessary for successful participation in economic activities. Lukman and Oviawa, cited in Ede (2012), also observed that entrepreneurship education equips young people with creative and innovative abilities that enable them to identify opportunities and respond effectively to societal needs. These contributions demonstrate that entrepreneurship education serves as an important strategy for promoting self-reliance, improving living standards, reducing youth unemployment, and enhancing national productivity.

In Nigeria, entrepreneurship education has become an integral component of educational reforms because of the increasing need to equip learners with practical competencies required for self-reemployment and sustainable development. The Federal Republic of Nigeria (2014) emphasized that one of the objectives of education is to provide learners with entrepreneurial, vocational, and technical skills necessary for self-reliance, employment generation, and national development. This objective reflects the recognition that education should not merely produce certificate holders but individuals who possess the competencies required to contribute meaningfully to economic and social transformation. Although entrepreneurship education provides the philosophical and practical foundation for developing entrepreneurial competencies, its objectives can only be realized through a carefully planned and organized curriculum. A curriculum serves as the blueprint that specifies the learning experiences, instructional contents, learning activities, teaching strategies, and assessment procedures through which educational objectives are achieved. Consequently, the effectiveness of entrepreneurship education depends largely on the quality and implementation of the entrepreneurship education curriculum.

Entrepreneurship education curriculum refers to the organized programme of learning experiences designed to equip learners with entrepreneurial knowledge, practical skills, attitudes, values, and competencies necessary for productive living. The Federal Republic of Nigeria (2014) defined entrepreneurship education curriculum as a planned educational programme intended to provide learners with entrepreneurial knowledge, practical competencies, values, and skills required for self-employment, wealth creation, and national development. Afolabi and Alao (2012) described entrepreneurship education curriculum as a structured programme of learning experiences through which learners acquire entrepreneurial competencies necessary for innovation, enterprise development, and economic productivity. Similarly, the United Nations Educational, Scientific and Cultural Organization (2021) viewed entrepreneurship education curriculum as a systematic educational programme that develops learners' creativity, innovation, critical thinking, collaboration, and entrepreneurial competencies required for lifelong learning and sustainable development.

These definitions reveal that entrepreneurship education curriculum provides the framework through which entrepreneurship education is translated into practical classroom

experiences. It specifies the objectives, learning contents, instructional methods, practical activities, learning resources, and evaluation procedures required to develop entrepreneurial competencies among learners. Through effective curriculum implementation, students are expected to acquire practical knowledge, innovation skills, creativity, leadership abilities, communication skills, and problem-solving competencies capable of preparing them for productive participation in society. For the purpose of this study, entrepreneurship education curriculum in this study refers to the planned instructional programme implemented in public secondary schools to develop students' entrepreneurial knowledge, practical skills, creativity, innovation, values, and self-reliance through appropriate teaching and learning experiences.

However, the successful implementation of entrepreneurship education curriculum depends largely on the availability and effective utilization of appropriate instructional resources capable of enriching classroom instruction and improving learners' participation. The rapid advancement of digital technology has introduced innovative instructional resources that make learning more flexible, interactive, accessible, and learner-centred. Among these innovations, Open Educational Resources (OER) have emerged as one of the most effective digital resources for supporting curriculum implementation, improving access to quality educational materials, and enhancing teaching and learning. Therefore, understanding the concept of Open Educational Resources becomes essential in explaining how entrepreneurship education curriculum can be effectively implemented in public secondary schools.

The rapid advancement of information and communication technology has transformed the educational landscape by providing innovative approaches to teaching and learning. Among these innovations, Open Educational Resources (OER) have gained global recognition as valuable instructional resources capable of expanding access to quality education, promoting inclusive learning, and improving curriculum implementation. The increasing demand for quality education, coupled with the rising cost of educational materials, has encouraged educational institutions and governments to adopt Open Educational Resources as a means of providing affordable, flexible, and learner-centred educational opportunities. The adoption of Open Educational Resources is particularly relevant to entrepreneurship education because entrepreneurial knowledge and skills require continuous access to diverse instructional materials, practical demonstrations, collaborative learning, and innovative teaching strategies that extend beyond the conventional classroom environment. The United Nations Educational, Scientific and Cultural Organization (2019) defined Open Educational Resources as teaching, learning, and research materials in any format or medium that exist in the public domain or are released under an open licence that permits free access, use, adaptation, redistribution, and retention without unnecessary restrictions. This definition emphasizes the openness and flexibility of educational materials that enable teachers and learners to access, modify, and share knowledge according to their instructional needs. Spark (2017) defined Open Educational Resources as instructional materials designed for teaching and learning that are freely available for use, adaptation, and sharing without legal, financial, or technical barriers. According to the author, Open Educational Resources may include digital textbooks, online courses, lesson notes, instructional videos, simulations, multimedia resources, assessment materials, and software applications that support teaching and learning.

Similarly, the Commonwealth of Learning (2021) described Open Educational Resources as openly licensed educational materials that enable educators and learners to

access, use, modify, adapt, and redistribute educational content for instructional, learning, and research purposes. The organization maintained that Open Educational Resources promote equitable access to quality education by reducing the financial burden associated with acquiring learning materials.

The foregoing definitions indicate that Open Educational Resources represent a significant innovation in contemporary education because they provide unrestricted access to high-quality instructional materials that can be adapted to suit different learning environments. Unlike conventional instructional resources that are often expensive and difficult to obtain, Open Educational Resources provide teachers and students with opportunities to access current educational materials at little or no cost. They equally encourage collaborative learning, independent study, creativity, and the integration of technology into classroom instruction. Through digital textbooks, online courses, educational videos, virtual laboratories, multimedia presentations, discussion forums, and other interactive learning resources, teachers are able to enrich classroom instruction while learners gain opportunities to learn at their own pace beyond the confines of the traditional classroom. The relevance of Open Educational Resources to entrepreneurship education cannot be overemphasized. Entrepreneurship education emphasizes practical learning, innovation, creativity, and problem-solving, all of which require continuous access to current information and practical learning experiences. Through Open Educational Resources, teachers can expose students to successful entrepreneurial practices, business case studies, online business simulations, digital marketing strategies, financial literacy programmes, and practical demonstrations that enhance entrepreneurial learning. Students can equally collaborate with peers, access entrepreneurial learning platforms, participate in virtual training, and acquire entrepreneurial competencies regardless of geographical location or financial limitations. Consequently, Open Educational Resources provide an effective platform for improving the implementation of entrepreneurship education curriculum in public secondary schools.

Operationally, Open Educational Resources in this study refer to freely accessible digital teaching and learning materials, including online courses, electronic textbooks, instructional videos, educational websites, virtual learning platforms, and other openly licensed resources utilized by teachers in implementing the entrepreneurship education curriculum in public secondary schools in Nsukka Education Zone.

The effective utilization of Open Educational Resources in implementing entrepreneurship education curriculum is expected to improve students' acquisition of entrepreneurial competencies, innovation, creativity, digital literacy, and problem-solving abilities. These competencies are fundamental to improving individual productivity, promoting self-reliance, reducing unemployment, encouraging wealth creation, and enhancing national development. The realization of these outcomes ultimately contributes to the attainment of sustainable development, which has become a major goal of educational systems across the world.

Sustainable development has attracted considerable attention among governments, educational institutions, development agencies, and international organizations because of its emphasis on improving the quality of human life without jeopardizing the ability of future generations to satisfy their own needs. As nations continue to face challenges such as unemployment, poverty, environmental degradation, economic instability, and social inequality, sustainable development has emerged as a framework for promoting balanced economic, social, and environmental progress. Education occupies a central position in achieving sustainable development because it equips individuals with the knowledge,

competencies, values, and attitudes required to improve their standard of living while contributing positively to society. The World Commission on Environment and Development (1987, p. 43) defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This widely accepted definition emphasizes the need to balance present developmental needs with future sustainability. Obizue, Ogidi and Ejim (2016) defined sustainable development as development that satisfies present needs while simultaneously promoting the well-being of future generations. The authors emphasized that sustainable development should improve the quality of life of the present generation without limiting opportunities available to those yet unborn. Similarly, Mbakwem (2017) viewed sustainable development as a continuous development process that seeks to balance economic growth, social development, and environmental protection in order to improve human well-being and ensure long-term societal progress.

The definitions above reveal that sustainable development extends beyond economic growth to include social inclusion, environmental conservation, human capacity development, and improved quality of life. Sustainable development therefore requires educational systems capable of producing knowledgeable, skilled, innovative, and responsible citizens who can contribute to economic productivity, environmental sustainability, and social transformation. Entrepreneurship education contributes significantly to sustainable development because it equips learners with entrepreneurial competencies that encourage innovation, self-employment, responsible resource utilization, wealth creation, and poverty reduction. Through effective implementation of entrepreneurship education curriculum using Open Educational Resources, learners acquire practical competencies capable of improving their productivity and enhancing national development. In this context, sustainable development in this study refers to the continuous development of entrepreneurial knowledge, practical skills, innovation, creativity, self-reliance, productivity, and responsible citizenship among students through the effective implementation of entrepreneurship education curriculum using Open Educational Resources in public secondary schools. Although entrepreneurship education, entrepreneurship education curriculum, Open Educational Resources, and sustainable development are closely related, the realization of these educational objectives depends on the educational environment in which teaching and learning take place. In Nigeria, one of the most appropriate settings for nurturing entrepreneurial competencies among young people is the secondary school, where learners begin to develop career aspirations, occupational interests, and life skills. Consequently, understanding the concept of secondary school education is necessary to appreciate the context within which entrepreneurship education curriculum is implemented using Open Educational Resources to achieve sustainable development.

Secondary school education occupies a strategic position in the Nigerian educational system because it serves as the bridge between basic and tertiary education while providing learners with the knowledge, skills, values, and attitudes required for higher education, productive employment, and responsible citizenship. It is at this stage that learners begin to discover their interests, develop occupational aspirations, and acquire competencies that prepare them for adult life. Consequently, secondary school education provides an appropriate platform for the development of entrepreneurial competencies needed for self-reliance and national development. The importance of this level of education has continued to increase because it prepares learners to respond to

emerging socio-economic and technological challenges through the acquisition of relevant knowledge and practical skills.

The Federal Republic of Nigeria (2014) defined secondary school education as the level of education provided after basic education and before tertiary education, designed to prepare learners for useful living within society and for higher education. According to the National Policy on Education, one of the major objectives of secondary school education is to equip learners with entrepreneurial, vocational, and technical skills necessary for self-reliance, employment generation, and national development. This definition recognizes secondary school education as an important stage for human capital development and the acquisition of competencies required for lifelong learning. Obanya (2014) viewed secondary school education as a formal level of education that promotes the intellectual, social, moral, emotional, and vocational development of learners in preparation for productive participation in society. The author maintained that secondary school education should not only emphasize academic achievement but should also develop learners' practical competencies, creativity, critical thinking, and problem-solving abilities capable of improving their quality of life. Similarly, the United Nations Educational, Scientific and Cultural Organization (2021) described secondary education as an organized level of learning that equips adolescents with the knowledge, skills, values, and competencies required for further education, employment, active citizenship, and sustainable development. The organization emphasized that secondary education should respond to the changing demands of society by promoting innovation, digital literacy, collaboration, and lifelong learning.

The foregoing definitions indicate that secondary school education extends beyond academic instruction to include the holistic development of learners through the acquisition of practical knowledge, vocational competencies, entrepreneurial skills, moral values, and life skills. At this level, learners are expected to acquire competencies that prepare them for higher education, employment, self-reliance, and responsible participation in society. Considering the developmental characteristics of adolescents, secondary school provides an appropriate environment for nurturing entrepreneurial mindsets, creativity, innovation, and productive attitudes that can contribute to national development. The implementation of entrepreneurship education at the secondary school level has become increasingly important because many learners complete their education at this stage and may not immediately proceed to tertiary institutions. Equipping such learners with entrepreneurial knowledge and practical skills increases their capacity for self-employment, wealth creation, and economic participation. However, the successful realization of these objectives depends largely on the effectiveness of curriculum implementation and the availability of appropriate instructional resources. Conventional methods of teaching entrepreneurship education have often been constrained by inadequate instructional materials, limited practical experiences, insufficient technological facilities, and poor access to current learning resources. These challenges have created the need for innovative instructional approaches capable of enriching teaching and learning within secondary schools.

One of such innovative approaches is the utilization of Open Educational Resources in implementing the entrepreneurship education curriculum. Open Educational Resources provide teachers with access to digital textbooks, instructional videos, online courses, virtual demonstrations, simulations, educational websites, and other freely accessible learning materials that enhance classroom instruction. Their utilization enables teachers to adopt learner-centred instructional strategies that encourage collaboration,

creativity, independent learning, critical thinking, and practical problem-solving. Students equally benefit from unrestricted access to quality learning resources, thereby improving their entrepreneurial competencies and readiness for productive engagement in society. Within the context of public secondary schools in Nsukka Education Zone, the effective implementation of entrepreneurship education curriculum using Open Educational Resources is expected to improve students' acquisition of entrepreneurial knowledge, practical skills, creativity, innovation, digital literacy, and problem-solving abilities. These competencies are essential for promoting self-reliance, reducing unemployment, encouraging wealth creation, and fostering sustainable development. The extent to which teachers utilize Open Educational Resources in implementing the entrepreneurship education curriculum may therefore determine the effectiveness of entrepreneurship education in achieving its intended objectives.

Operationally, secondary school education in this study refers to the public secondary schools in Nsukka Education Zone, Enugu State, where entrepreneurship education curriculum is implemented using Open Educational Resources to develop students' entrepreneurial competencies for sustainable development. From the foregoing conceptualization, it is evident that entrepreneurship education provides learners with the entrepreneurial knowledge, attitudes, values, and competencies required for productive living. These competencies are systematically organized and delivered through the entrepreneurship education curriculum, which serves as the framework for achieving the objectives of entrepreneurship education. The successful implementation of the curriculum depends largely on the availability and effective utilization of Open Educational Resources, which provide accessible, flexible, and learner-centred instructional materials capable of enriching teaching and learning. Effective utilization of these resources is expected to enhance students' entrepreneurial competencies, promote innovation, encourage self-reliance, and contribute to sustainable development. Since these educational activities take place within public secondary schools, the school environment provides the platform where entrepreneurship education curriculum is implemented using Open Educational Resources to achieve sustainable development. Consequently, the concepts of entrepreneurship education, entrepreneurship education curriculum, Open Educational Resources, sustainable development, and secondary school education are interrelated and collectively provide the conceptual foundation upon which this study is anchored.

Although Open Educational Resources provide significant opportunities for improving the implementation of entrepreneurship education curriculum, their effective utilization in schools is faced with several challenges. According to Spark (2017), the effectiveness of OER depends largely on the availability of appropriate technological infrastructure, digital skills, and supportive learning environments. One major challenge affecting the utilization of OER is the unavailability of computers and other digital devices. Since most OER activities require access to computers, tablets, or other electronic devices, inadequate provision of these facilities limits the ability of teachers and learners to access and utilize available educational resources effectively. Another major challenge is the lack of digital competency among teachers and learners. Commonwealth of Learning (2021) noted that successful utilization of OER requires adequate capacity development among educators and learners to enable them access, adapt, and effectively use digital learning materials. Teachers who lack technological skills may experience difficulties integrating OER into entrepreneurship education instruction, while students

may also struggle to utilize available resources effectively without the necessary digital competencies.

Inadequate and irregular power supply also constitutes a serious barrier to the effective utilization of OER in Nigerian schools. According to Adomi and Kpangban (2010), unstable electricity supply remains one of the major challenges affecting the integration of information and communication technology into Nigerian education. Since most OER platforms depend on electronic devices and internet connectivity, inconsistent power supply reduces accessibility and limits continuous utilization of digital educational resources. Poor funding of education is another challenge affecting the implementation of entrepreneurship education through OER. Samuel (2019) observed that inadequate financial commitment to education in Nigeria has affected the provision of infrastructure, instructional materials, and technological facilities required for effective teaching and learning. Without adequate funding, schools may experience difficulties in acquiring computers, providing internet services, training teachers, and maintaining digital facilities necessary for effective OER implementation. Resistance to technological change among some teachers and educational personnel also affects the adoption of OER. Empirica (2006) reported that some teachers who have limited experience with technology may question the usefulness of digital tools in classroom instruction and may therefore be reluctant to adopt technology-based teaching approaches. Since the effective use of OER requires teachers to integrate digital resources into their instructional practices, negative attitudes towards technology may hinder successful implementation of entrepreneurship education curriculum.

Addressing these challenges requires deliberate efforts from government, school administrators, teachers, communities, and other educational stakeholders. According to the United Nations Educational, Scientific and Cultural Organization (2019), effective utilization of OER requires supportive policies, capacity building, adequate technological infrastructure, and sustainable models that encourage access and reuse of educational resources. Therefore, providing computers and internet facilities, improving electricity supply, funding digital education initiatives, and organizing continuous professional development programmes for teachers are necessary steps towards improving the implementation of entrepreneurship education curriculum through OER. Notwithstanding the growing recognition of Open Educational Resources as a strategy for improving access to educational materials and enhancing curriculum implementation, challenges affecting their utilization in entrepreneurship education at the secondary school level remain insufficiently explored. Existing studies such as Spark (2017), Commonwealth of Learning (2021), and United Nations Educational, Scientific and Cultural Organization (2019) have largely focused on the general benefits, principles, and requirements of OER, while limited empirical attention has been given to the practical challenges associated with utilizing OER for implementing entrepreneurship education curriculum in public secondary schools.

Furthermore, available literature has not adequately established the extent to which factors such as availability of digital facilities, teachers' technological competencies, electricity supply, funding, and attitudes towards technology influence the utilization of OER for entrepreneurship education curriculum implementation in public secondary schools in Nsukka Education Zone, Enugu State. This gap necessitates the present study to examine the implementation of entrepreneurship education curriculum using Open Educational Resources for sustainable development in public secondary schools in Nsukka Education Zone, Enugu State.

Statement of the Problem

The need to develop entrepreneurial competencies among secondary school students has become increasingly important due to the growing challenges of unemployment, poverty, economic uncertainty, and the demand for innovative skills required for sustainable development. Education is expected to provide learners with relevant knowledge, practical skills, creativity, and competencies that will enable them to become self-reliant, productive, and capable of contributing meaningfully to society. In this regard, entrepreneurship education curriculum is expected to provide students with opportunities to acquire entrepreneurial knowledge, practical abilities, innovative thinking, and problem-solving skills necessary for personal empowerment and national development. Ideally, the implementation of entrepreneurship education curriculum in public secondary schools should be supported with adequate instructional resources, innovative teaching approaches, and accessible learning materials that enable teachers to effectively deliver entrepreneurial knowledge and skills to learners. The availability and utilization of appropriate educational resources should enhance students' participation, improve practical learning experiences, encourage creativity and innovation, and promote the acquisition of entrepreneurial competencies required for sustainable development. Open Educational Resources provide opportunities for teachers and learners to access flexible, affordable, and diverse instructional materials capable of strengthening the implementation of entrepreneurship education curriculum.

However, the actual situation appears different, as the effective implementation of entrepreneurship education curriculum in public secondary schools continues to face several challenges. Many schools experience inadequate access to digital learning facilities, limited technological competencies among teachers and learners, poor internet connectivity, irregular power supply, insufficient funding, and challenges associated with integrating digital resources into classroom instruction. These conditions may limit the effective utilization of Open Educational Resources for enhancing entrepreneurship education delivery. Consequently, students may not acquire the practical entrepreneurial competencies, creativity, and innovative skills required for self-reliance and sustainable development. Furthermore, despite the increasing recognition of Open Educational Resources as valuable tools for improving teaching and learning, there is limited empirical evidence on the extent to which these resources are utilized for implementing entrepreneurship education curriculum in public secondary schools, particularly in Nsukka Education Zone, Enugu State. The extent of availability, utilization, and challenges associated with the use of Open Educational Resources for entrepreneurship education curriculum implementation remains unclear. Therefore, the problem of this study is that entrepreneurship education curriculum implementation in public secondary schools may not be achieving its intended objectives of developing students' entrepreneurial competencies for sustainable development due to inadequate utilization of Open Educational Resources and associated implementation challenges. The study therefore seeks to investigate the implementation of entrepreneurship education curriculum using Open Educational Resources for sustainable development in public secondary schools in Nsukka Education Zone, Enugu State.

Purpose of the Study

The main objective of the study is to examine the implementation of entrepreneurship education curriculum using Open Educational Resources for sustainable development in public secondary schools in Nsukka Education Zone, Enugu State. Specifically, the study seeks to:

1. determine the extent to which entrepreneurship education curriculum is implemented using Open Educational Resources in public secondary schools in Nsukka Education Zone.
2. identify the Open Educational Resources available for implementing entrepreneurship education curriculum in public secondary schools.
3. examine the challenges encountered in implementing entrepreneurship education curriculum using Open Educational Resources in public secondary schools.
4. identify strategies for improving the implementation of entrepreneurship education curriculum using Open Educational Resources for sustainable development in public secondary schools.

Research Questions

The following research questions guided the study:

1. To what extent is the entrepreneurship education curriculum implemented using Open Educational Resources in public secondary schools in Nsukka Education Zone?
2. What Open Educational Resources are available for implementing entrepreneurship education curriculum in public secondary schools?
3. What challenges are encountered in implementing entrepreneurship education curriculum using Open Educational Resources in public secondary schools?
4. What strategies can improve the implementation of entrepreneurship education curriculum using Open Educational Resources for sustainable development in public secondary schools?

Methods

The study adopted a descriptive survey research design. The design was considered appropriate because the study sought to obtain information from teachers on the implementation of entrepreneurship education curriculum using Open Educational Resources for sustainable development in public secondary schools in Nsukka Education Zone, Enugu State. The design enabled the researchers to collect data on the extent of implementation, available Open Educational Resources, challenges encountered, and strategies for improving implementation without manipulating any of the study variables. The study was carried out in Nsukka Education Zone of Enugu State, Nigeria. Nsukka Education Zone is one of the education zones in Enugu State and comprises public secondary schools under the administration of the Post Primary Schools Management Board. The area was considered suitable for the study because entrepreneurship education is taught at the secondary school level, and teachers are directly involved in the implementation of the curriculum and utilization of instructional resources.

The population of the study comprised 4,560 teachers in public secondary schools in Nsukka Education Zone, Enugu State. The teachers were considered appropriate respondents because they are directly involved in the implementation of entrepreneurship education curriculum and possess relevant information on the utilization of Open Educational Resources in teaching and learning. From the population, a sample size of 368 teachers was selected, representing 8.1% of the total population. The proportion selected was considered adequate for the study because a representative sample provides reliable information about the characteristics of a larger population. This position is supported by Creswell and Creswell (2018), who noted that survey research requires an appropriate sample size that adequately represents the target population for meaningful interpretation of findings. Similarly, Nworgu (2015) stated that selecting a reasonable proportion of a population is acceptable in educational research when appropriate sampling procedures are employed.

A proportionate stratified random sampling technique was used to select the respondents. The technique was considered appropriate because it ensured adequate representation of teachers from the different public secondary schools within Nsukka Education Zone. Through this approach, each school contributed respondents based on its proportion of the total teacher population, thereby reducing sampling bias and ensuring fair representation. The instrument used for data collection was a structured questionnaire titled “Entrepreneurship Education Curriculum Implementation Using Open Educational Resources Questionnaire (EECIOERQ)”. The questionnaire was developed based on the objectives of the study and was divided into sections. Section A contained demographic information of the respondents, while the remaining sections contained items on the extent of implementation of entrepreneurship education curriculum using Open Educational Resources, available Open Educational Resources, challenges encountered, and strategies for improving implementation.

The instrument was subjected to face and content validation by three experts in the areas of Educational Foundations and Measurement and Evaluation at the University of Nigeria, Nsukka. The experts examined the items in terms of clarity, relevance, adequacy, and suitability for measuring the objectives of the study. Their observations and suggestions were used to modify the instrument before the final administration. The reliability of the instrument was established through a trial test conducted among teachers in public secondary schools outside the study area. The responses obtained from the trial test were analyzed using Cronbach Alpha reliability method to determine the internal consistency of the questionnaire items. The reliability coefficient obtained was considered adequate, indicating that the instrument was reliable for data collection. The researchers administered the questionnaire directly to the respondents with the assistance of trained research assistants. The respondents were given adequate time to complete the questionnaire, and the completed copies were collected immediately to ensure a high return rate. The data collected were analyzed using mean and standard deviation. The mean was used to answer the four research questions, while standard deviation was used to determine the degree of variation among respondents’ responses.

The decision rule for interpreting the findings was based on a four-point rating scale. For Research Question One, mean scores were interpreted as Very High Extent (3.50–4.00), High Extent (2.50–3.49), Low Extent (1.50–2.49), and Very Low Extent (1.00–1.49). For Research Question Two, mean scores were interpreted as Very Available (3.50–4.00), Available (2.50–3.49), Less Available (1.50–2.49), and Not Available (1.00–1.49). For Research Question Three, mean scores were interpreted as Highly Encountered (3.50–4.00), Encountered (2.50–3.49), Less Encountered (1.50–2.49), and Not Encountered (1.00–1.49). For Research Question Four, mean scores were interpreted as Highly Recommended (3.50–4.00), Recommended (2.50–3.49), Less Recommended (1.50–2.49), and Not Recommended (1.00–1.49). Therefore, a mean score of 2.50 and above was accepted, while a mean score below 2.50 was rejected.

Results

Table 1: Mean and Standard Deviation of Responses on the Extent of Implementation of Entrepreneurship Education Curriculum Using Open Educational Resources in Public Secondary Schools in Nsukka Education Zone

S/N	Item Statement	Mean ($\bar{X}$)	Std Dev (SD)	Decision
1	Extent to which teachers utilize online instructional	3.18	0.72	HE

	materials in implementing entrepreneurship education curriculum.			
2	Extent to which teachers use electronic textbooks and digital learning materials for teaching entrepreneurship education.	2.96	0.81	HE
3	Extent to which teachers integrate online videos and multimedia resources into entrepreneurship education lessons.	3.05	0.76	HE
4	Extent to which teachers encourage students to access Open Educational Resources for entrepreneurship education learning activities.	2.88	0.85	HE
5	Extent to which teachers use online platforms to support entrepreneurship education teaching and learning.	2.79	0.89	HE
6	Extent to which teachers adapt available Open Educational Resources to implement entrepreneurship education curriculum contents.	2.74	0.91	HE
7	Extent to which teachers utilize digital resources to develop students' entrepreneurial skills.	3.12	0.74	HE
8	Extent to which teachers use internet-based resources to expose students to current entrepreneurial practices.	2.83	0.86	HE
9	Extent to which teachers utilize freely available online materials to support entrepreneurship education instruction.	3.01	0.79	HE
10	Extent to which teachers use technology-supported resources to promote students' creativity and innovation in entrepreneurship education.	3.15	0.73	HE
Aggregate Score		2.97	0.81	HE

Data in Table 1 shows that all the items recorded mean scores ranging from 2.74 to 3.18, which are above the criterion mean of 2.50 ($\bar{X} \geq 2.50$). This indicates that teachers reported a high extent of implementation of entrepreneurship education curriculum using Open Educational Resources in public secondary schools in Nsukka Education Zone. The aggregate mean score of 2.97 with a standard deviation of 0.81 further confirms a high extent of implementation. The findings imply that teachers utilize different forms of Open Educational Resources, such as digital materials, online platforms, and multimedia resources, in supporting the implementation of entrepreneurship education curriculum. The relatively low standard deviation indicates that teachers' responses were closely related.

Table 2: Mean and Standard Deviation of Responses on the Available Open Educational Resources for Implementing Entrepreneurship Education Curriculum in Public Secondary Schools in Nsukka Education Zone

S/N	Item Statement	Mean ($\bar{X}$)	Std Dev (SD)	Decision
1	Electronic textbooks are available for implementing entrepreneurship education curriculum.	3.02	0.82	A
2	Online instructional videos are available for teaching entrepreneurship education.	2.89	0.86	A
3	Internet-based learning platforms are available for entrepreneurship education instruction.	2.71	0.91	A
4	Digital lesson materials are available for teaching entrepreneurship education concepts.	3.11	0.78	A
5	Online entrepreneurship courses and training materials are	2.65	0.94	A

	available for teachers and students.			
6	Educational websites containing entrepreneurship learning resources are available.	2.76	0.88	A
7	Social media platforms are available for supporting entrepreneurship education teaching and learning.	3.05	0.80	A
8	Digital assessment materials are available for evaluating entrepreneurship education learning activities.	2.68	0.92	A
9	Multimedia resources such as audio and visual materials are available for entrepreneurship education instruction.	2.97	0.84	A
10	Open educational platforms are available for accessing entrepreneurship education resources.	2.73	0.90	A
Aggregate Score		2.86	0.87	A

Data in Table 2 shows that all the items recorded mean scores above the criterion mean of 2.50 ($\bar{X} \geq 2.50$), indicating that the identified Open Educational Resources are available for implementing entrepreneurship education curriculum in public secondary schools in Nsukka Education Zone. The aggregate mean score of 2.86 and standard deviation of 0.87 further indicate that the resources are available. The finding implies that teachers have access to resources such as electronic textbooks, digital lesson materials, online videos, educational websites, and multimedia materials that can support entrepreneurship education implementation. The standard deviation indicates that the respondents' opinions were relatively close.

Table 3: Mean and Standard Deviation of Responses on the Challenges Encountered in Implementing Entrepreneurship Education Curriculum Using Open Educational Resources in Public Secondary Schools in Nsukka Education Zone

S/N	Item Statement	Mean ($\bar{X}$)	Std Dev (SD)	Decision
1	Inadequate availability of computers affects the implementation of entrepreneurship education curriculum using OER.	3.28	0.74	E
2	Poor internet connectivity limits the effective utilization of OER for entrepreneurship education instruction.	3.35	0.71	E
3	Lack of teachers' digital competency affects the use of OER in teaching entrepreneurship education.	3.12	0.82	E
4	Inadequate electricity supply affects the use of technology-based resources for entrepreneurship education.	3.41	0.69	E
5	Insufficient funding limits the provision and maintenance of OER facilities in schools.	3.38	0.76	E
6	Limited access to digital devices among students affects the implementation of entrepreneurship education using OER.	3.22	0.79	E
7	Teachers' resistance to adopting technology-based teaching approaches affects OER utilization.	2.87	0.88	E
8	Lack of technical support for maintaining digital facilities affects OER implementation.	3.18	0.81	E
9	Inadequate training opportunities for teachers affect effective utilization of OER.	3.31	0.75	E
10	Limited availability of relevant OER materials affects entrepreneurship education curriculum implementation.	3.09	0.83	E
Aggregate Score		3.22	0.78	E

Data in Table 3 shows that all the items recorded mean scores above the criterion mean of 2.50 ($\bar{X} \geq 2.50$), indicating that the listed factors are challenges encountered in implementing entrepreneurship education curriculum using Open Educational Resources

in public secondary schools in Nsukka Education Zone. The aggregate mean score of 3.22 with a standard deviation of 0.78 indicates that the challenges are encountered by teachers. The findings reveal that inadequate computers, poor internet connectivity, irregular electricity supply, inadequate funding, and limited teachers' digital competencies constitute major barriers to effective OER utilization. The standard deviation shows that teachers' responses were relatively consistent.

Table 4: Mean and Standard Deviation of Responses on Strategies for Improving the Implementation of Entrepreneurship Education Curriculum Using Open Educational Resources for Sustainable Development in Public Secondary Schools in Nsukka Education Zone

S/N	Item Statement	Mean (X)	Std Dev (SD)	Decision
1	Provision of adequate computers and digital devices in schools can improve the implementation of entrepreneurship education curriculum using OER.	3.62	0.63	HR
2	Regular training and capacity building of teachers on OER utilization can enhance entrepreneurship education implementation.	3.58	0.66	HR
3	Improvement of internet connectivity in schools can promote effective utilization of OER for entrepreneurship education.	3.55	0.70	HR
4	Provision of stable electricity supply can improve access to technology-based learning resources.	3.67	0.61	HR
5	Adequate funding for digital infrastructure can enhance the implementation of entrepreneurship education using OER.	3.60	0.65	HR
6	Development of school-based policies that support technology integration can improve OER utilization.	3.42	0.72	R
7	Collaboration between government, schools, and private organizations can strengthen OER implementation.	3.51	0.68	HR
8	Provision of technical support for maintaining digital facilities can improve effective OER utilization.	3.46	0.71	R
9	Encouraging teachers to adopt innovative digital teaching approaches can improve entrepreneurship education delivery.	3.54	0.67	HR
10	Regular monitoring and evaluation of OER utilization can enhance effective curriculum implementation.	3.39	0.73	R
Aggregate Score		3.53	0.68	HR

Data in Table 4 shows that all the items recorded mean scores above the criterion mean of 2.50 ($\bar{X} \geq 2.50$), indicating that the identified strategies are recommended for improving the implementation of entrepreneurship education curriculum using Open Educational Resources in public secondary schools in Nsukka Education Zone. The aggregate mean score of 3.53 with a standard deviation of 0.68 shows that the strategies are highly recommended. The findings imply that provision of digital facilities, teacher training, improved internet connectivity, stable electricity supply, adequate funding, and collaboration among stakeholders can enhance effective utilization of OER for entrepreneurship education towards sustainable development. The standard deviation indicates that teachers' responses were relatively consistent.

Discussion

The findings of the study revealed that entrepreneurship education curriculum is implemented using Open Educational Resources to a high extent in public secondary schools in Nsukka Education Zone. This indicates that teachers utilize digital materials,

online platforms, electronic textbooks, and multimedia resources in teaching entrepreneurship education. However, the level of implementation may still be affected by inadequate facilities and teachers' digital competencies. The findings are in consonance with the study of Spark (2017), who posited that OER provides flexible and accessible instructional materials that improve teaching and learning. Similarly, the Commonwealth of Learning (2021) noted that OER enhances curriculum delivery by enabling teachers to access and adapt learning resources for effective instruction.

The findings of the study revealed that different Open Educational Resources are available for implementing entrepreneurship education curriculum in public secondary schools in Nsukka Education Zone. The resources include electronic textbooks, digital lesson materials, online videos, educational websites, and multimedia resources. This suggests that teachers have access to various digital materials for supporting entrepreneurship education. However, availability alone may not guarantee effective utilization due to challenges associated with infrastructure and technical skills. The findings agree with Spark (2017), who identified digital textbooks, online courses, videos, and other electronic materials as important OER for teaching and learning. Similarly, the United Nations Educational, Scientific and Cultural Organization (2019) stated that OER improves access to quality educational resources and promotes innovative teaching practices.

The findings of the study revealed that teachers encounter challenges in implementing entrepreneurship education curriculum using OER. These challenges include inadequate computers, poor internet connectivity, insufficient digital skills, irregular electricity supply, inadequate funding, and limited technical support. This implies that despite the benefits of OER, infrastructural and human resource limitations may hinder effective implementation. The findings support Adomi and Kpangban (2010), who reported that inadequate ICT facilities and limited technological skills affect technology integration in Nigerian schools. Similarly, Empirica (2006) found that teachers' limited ICT experience and inadequate support systems reduce effective adoption of digital resources. Samuel (2019) also noted that inadequate educational funding affects the provision of facilities required for effective curriculum implementation.

The findings of the study revealed that provision of digital facilities, teacher training, improved internet access, stable electricity supply, adequate funding, stakeholder collaboration, and continuous monitoring are strategies for improving the implementation of entrepreneurship education curriculum using OER. This suggests that effective OER utilization requires both technological and institutional support. The findings agree with the Commonwealth of Learning (2021), which emphasized that successful OER implementation requires capacity building, supportive policies, and adequate infrastructure. Similarly, the United Nations Educational, Scientific and Cultural Organization (2019) highlighted the importance of developing supportive systems and building stakeholders' capacity for effective OER utilization. Dike, Nwankwo and Ofodum (2020) also maintained that entrepreneurship education requires adequate resources and innovative approaches to develop students' entrepreneurial competencies. Overall, the findings indicate that OER provides valuable opportunities for improving entrepreneurship education curriculum implementation; however, addressing infrastructural, financial, and capacity-related challenges remains necessary for achieving sustainable development in public secondary schools in Nsukka Education Zone.

Contribution to Knowledge

The study contributed to knowledge by providing empirical evidence on the implementation of entrepreneurship education curriculum using Open Educational Resources in public secondary schools in Nsukka Education Zone, Enugu State. The study established that Open Educational Resources have the potential to enhance entrepreneurship education delivery by providing teachers with access to digital instructional materials, online learning platforms, and other innovative resources. The study further contributed to knowledge by identifying the major challenges limiting effective OER utilization, including inadequate digital facilities, poor internet connectivity, insufficient teachers' digital competencies, irregular electricity supply, and inadequate funding. The findings also provided practical strategies for improving OER integration, thereby contributing to the understanding of how technology-supported resources can promote entrepreneurial skills development and sustainable development among secondary school students.

Conclusion

Based on the findings of the study, it was concluded that entrepreneurship education curriculum was implemented using Open Educational Resources to a high extent in public secondary schools in Nsukka Education Zone, Enugu State. The study also concluded that various Open Educational Resources, including electronic textbooks, digital lesson materials, online instructional videos, educational websites, and multimedia resources, were available for supporting entrepreneurship education implementation. However, the effective utilization of these resources was affected by challenges such as inadequate computers, poor internet connectivity, insufficient teachers' digital competencies, irregular electricity supply, and inadequate funding. The study further concluded that improving digital infrastructure, enhancing teachers' capacity, providing adequate funding, and strengthening stakeholder support are necessary strategies for promoting effective implementation of entrepreneurship education curriculum using Open Educational Resources for sustainable development.

Recommendations

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

1. Government and relevant educational stakeholders should provide adequate computers, digital devices, and other technological facilities in public secondary schools because the effective implementation of entrepreneurship education curriculum using Open Educational Resources depends on access to appropriate digital infrastructure.
2. The Post Primary Schools Management Board (PBSMB) and other education authorities should organize regular training and capacity-building programmes for teachers because improved digital competencies will enable teachers to effectively utilize Open Educational Resources in teaching entrepreneurship education.
3. Government and telecommunication stakeholders should improve internet connectivity in public secondary schools because reliable internet access is necessary for teachers and students to access online educational resources.
4. Government and school administrators should provide adequate funding for the acquisition, maintenance, and sustainability of digital learning resources because insufficient funding limits the effective implementation of Open Educational Resources.

5. School administrators should encourage collaboration among teachers, government agencies, private organizations, and educational technology providers because stakeholder support can improve the availability and utilization of Open Educational Resources for entrepreneurship education.

REFERENCES

- Adomi, E. E., & Kpangban, E. (2010). Application of ICTs in Nigerian secondary schools. *Library Philosophy and Practice*.
- Afolabi, F. O., & Alao, F. O. (2012). Appraising the role of educational management in initiating and sustaining a viable entrepreneurship education for national development. *European Scientific Journal*, 8(6).
- Alberti, F., Sciscia, S., & Poli, A. (2004). Entrepreneurship education: Notes on an ongoing debate. *Proceedings of the 14th Annual International Entrepreneurship Conference*, University of Napoli Federico II, Italy.
- Commonwealth of Learning. (2021). Guidelines for open educational resources in higher education. Commonwealth of Learning.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.
- Dike, F. O., Nwankwo, S. A., & Ofodum, C. J. (2020). Lecturers' and students' perception of problems militating against effective teaching of entrepreneurship education in Enugu State tertiary institutions, Nigeria. *Institute of Education Journal, University of Nigeria, Nsukka*, 32(2), 208–220.
- Ede, E. O. (2012). Entrepreneurship education in Nigeria: Issues and challenges.
- Empirica, E. L. (2006). Benchmarking access and use of ICT in European schools 2006: Final report from the head teacher and classroom teacher surveys in 27 European countries. European Commission.
- Esu, E. O. (2011). Entrepreneurship skills acquisition: The future direction of tertiary education in Nigeria. *Nigerian Journal of Curriculum Studies*, 19(1), 1–4.
- Federal Republic of Nigeria. (2014). *National policy on education* (6th ed.). Nigerian Educational Research and Development Council.
- Federal Ministry of Education. (2022). *National digital literacy framework*. Federal Ministry of Education.
- International Labour Organization. (2018). *World employment and social outlook: Trends for youth 2016*. International Labour Office.
- Junaidu, I. (2020). Entrepreneurship education for sustainable national development: From policies to actions. *Institute of Education Journal, University of Nigeria, Nsukka*, 32(2), 1–8.
- Lukman, A. D., & Oviawe, J. I. (2010). Strategies for promoting entrepreneurship education in secondary school curriculum. In E. C. Oluputai, B. U. Maduewesi, & R. O. Igbo (Eds.), *Issues and challenges in Nigeria education in the 21st century*. West and Solomon Publishing Company.
- Mbakwem, N. J. (2017). Sustainable development goals and tertiary education curriculum in the 21st century, Nigeria. *Journal of Curriculum and Instruction*, 11(3), 27–33.
- Nworgu, B. G. (2015). *Educational research: Basic issues and methodology* (3rd ed.). University Trust Publishers.
- Obanya, P. (2014). *Education reform in Nigeria*. HEBN Publishers.

- Obih, S. O. A. (2012). Factors militating against entrepreneurship and skills acquisition in primary school: The way forward. *Nigerian Journal of Curriculum Studies*, 19(3), 87–93.
- Obih, S. O. A., & Dorgu, T. (2018). Curriculum design and practicum. In A. Akudolu et al. (Eds.), *Compendium of curriculum theorization, development, designing and innovation in Nigeria*. C & J Publishers.
- Obih, S. O. A., Ejeh, V. J., & Azubuike, A. S. (2019). The teacher and curriculum implementation: An overview. In S. O. A. Obih, A. U. Igwe, & E. Ogwu (Eds.), *Panorama of curriculum development and instructional plan: A book of reading in honour of Prof. Akuma N. Mercy Divine Publishers*.
- Obizue, M. N., Ogidi, M., & Ejim, O. O. (2016). Poverty reduction and sustainable development through rural women empowerment. *International Journal of Gender and Development Issues*, 1(6), 35–43.
- Ogele, I. U., Ishiwu, I. U., & Onwuka, G. T. (2020). Entrepreneurship education for sustainable development: Challenges of implementation at the junior secondary school level. *Institute of Education Journal, University of Nigeria, Nsukka*, 32(2), 182–188.
- Ogidi, M., & Okore, I. O. (2017). Education for sustainable development in Nigeria: The role of civic education. *Journal of Curriculum and Instruction*, 11(3), 68–74.
- Ossai, R. M., Eze, R. I., Chineke, S. O., & Uwakwe, C. (2020). Computer: An innovative instructional material for the development of entrepreneurial skills in teaching and learning of English language for sustainable development. *Institute of Education Journal, University of Nigeria, Nsukka*, 32(2), 199–207.
- Samuel, G. O. (2019). How corruption is affecting basic education in Nigeria. *International Anti-Corruption News*.
- Spark, J. (2017). Open educational resources and teaching innovation.
- Todaro, M. P. (1982). *Economics of a developing world* (2nd ed.). Longman.
- United Nations Educational, Scientific and Cultural Organization. (2019). *Recommendation on open educational resources (OER)*. UNESCO.
- United Nations Educational, Scientific and Cultural Organization. (2021). *Reimagining our futures together: A new social contract for education*. UNESCO.
- United Nations Educational, Scientific and Cultural Organization. (2023). *Global education monitoring report 2023*. UNESCO.
- World Commission on Environment and Development. (1987). *Our common future*. Oxford University Press.