Interdisciplinary Journal of Educational Practice
ISSN: 2837-1534 | Impact Factor : 6.30
Volume. 11, Number 3; July-September, 2024;
Published By: Scientific and Academic Development Institute (SADI)
8933 Willis Ave Los Angeles, California
https://sadijournals.org/index.php/IJEP /ijep|editorial@sadijournals.org

EVALUATION OF LEARNING FACILITIES AND INSTRUCTIONAL MATERIALS FOR EARLY CHILDHOOD EDUCATION IN PUBLIC AND PRIVATE DEVELOPMENT CENTRES IN ENUGU STATE

Enekwe, Rosepetra Chiazokam, Ph. D, Nwafor, Alphonsus Onyeachonam, Ph. D, Rev. Br. Prof Ekene Osuji

Department of Educational Foundations, Faculty of Education, Godfrey Okoye University, Enugu

DOI: https://doi.org/10.5281/zenodo.14717789

Abstract: This study is to evaluated learning facilities and instructional materials for early childhood education in public and private development centres in Enugu State. the objectives were to determine the extent to which learning facilities are available for implementation of ECE and examine the extent to which instructional materials are provided for teaching in public and private early childhood development centres in Enugu State. The study used the descriptive survey approach. The study's population consisted of 3,853 teachers from public and private early childhood institutions across 17 Local Government Education Authorities in Enugu State. The study's sample size was 510 respondents. Descriptive and inferential statistics were used for data analysis with the aid of SPSS. The findings of the study revealed that the extent to which infrastructural/learning facilities are provided in Enugu State was low. However, it was low in public ECD centres, but high for private ECD centres and that the extent to which instructional materials are provided for implementation of ECE in Enugu State was low. However, it was low in public ECD centres, but high in private ECD centres. The study concludes that collaborative efforts from policymakers, educational stakeholders, and community leaders are essential to improve funding, resource distribution, and infrastructural development in public ECD centres. It was recommended among other things that educational stakeholders should allocate resources to upgrade and maintain infrastructure and learning facilities in public and private early childhood development centers.

Keywords: Learning facilities, Instructional materials, Early childhood education, Public, Private development centres

Introduction

Background of the study

Early Childhood Education (ECE) forms the cornerstone of a child's holistic development, laying the foundation for cognitive, social, emotional, and physical growth. Globally, it is recognized that access to adequate learning facilities and instructional materials plays a vital role in delivering quality early childhood education. According to UNESCO (2022), the provision of well-equipped learning environments significantly enhances children's learning outcomes and fosters active engagement. In Nigeria, however, the disparity in the availability of such resources between public and private early childhood development (ECD) centres has continued to raise concerns about equity and quality in ECE delivery.

The importance of learning facilities cannot be overstated, as they provide the infrastructure and tools necessary for effective teaching and learning. Studies suggest that physical facilities such as classrooms, playgrounds, and sanitation facilities directly impact the quality of education and children's comfort in ECD centres (World Bank, 2021). Additionally, instructional materials, including textbooks, charts, and digital resources, serve as critical enablers of interactive and inclusive learning experiences (Ogunode & Adamu, 2020). The absence or inadequacy of these facilities often hampers curriculum implementation and diminishes the overall learning experience, particularly in low-resource settings.

In Nigeria, the National Policy on Education (NPE) emphasizes the importance of providing adequate resources for early childhood education to achieve the desired outcomes (Federal Republic of Nigeria, 2013). However, implementation gaps remain, with public ECD centres often struggling with resource shortages compared to their private counterparts. Research by Akinsolu and Fadokun (2020) revealed that while private ECD centres generally have better access to facilities and instructional materials, public centres often face severe challenges, including underfunding, overcrowding, and lack of teacher training. This inequality underscores the urgent need to evaluate the availability of learning facilities and instructional materials in both public and private centres to identify gaps and recommend targeted interventions.

Enugu State, a key region in Nigeria's educational landscape, exemplifies these challenges. While private ECD centres in the state are often lauded for their better resource provision, public centres continue to grapple with insufficient funding and infrastructural deficits, which impede their ability to meet the educational needs of young learners (Onu, Okafor & Eze, 2021). These disparities highlight the need for empirical studies to evaluate the state of learning facilities and instructional materials across both sectors to inform policy and resource allocation. This study, therefore, seeks to provide an in-depth evaluation of learning facilities and instructional materials in public and private ECD centres in Enugu State.

Statement of the Problem

Early Childhood Education (ECE) is crucial for the holistic development of young children, laying the foundation for their future academic and socio-emotional growth. International frameworks, such as the UN Convention on the Rights of the Child and the Sustainable Development Goals (SDGs), emphasize the importance of quality early education, which is recognized as a fundamental human right (UNICEF, 2020). In Nigeria, the government has enacted policies such as the Universal Basic Education (UBE) Act of 2004, which mandates the inclusion of early childhood education in public primary schools. Despite these efforts, the implementation of effective ECE programs has faced numerous challenges, particularly in terms of resource availability.

One of the major obstacles is the inadequate provision of essential learning facilities and instructional materials in many Early Childhood Development (ECD) centres across Nigeria. Inadequate learning facilities such as poorly equipped classrooms, insufficient playgrounds, and lack of sanitary facilities hinder the learning process, affecting the physical, cognitive, and emotional development of young children (Ogunode & Adamu, 2020). Furthermore, a shortage of instructional materials, such as books, educational toys, and digital tools, prevents teachers from delivering an engaging and comprehensive curriculum, thereby limiting the quality of education provided (Akinsolu & Fadokun, 2020).

In Enugu State, both public and private ECD centres face these challenges to varying degrees. While private institutions often benefit from better resources, public centres are typically constrained by inadequate funding, overcrowded classrooms, and a lack of access to up-to-date learning materials (Onu et al., 2021). The disparity between the two sectors raises questions about the effectiveness of current policies and the equitable distribution

of resources for ECE in the state. Although national research has highlighted these concerns, there is a significant gap in studies that focus on the specific conditions in Enugu State.

If these challenges regarding learning facilities and instructional materials are not addressed, the quality of early childhood education in Enugu State, and by extension, Nigeria, may continue to decline. This could lead to long-term detrimental effects on children's cognitive and academic development, potentially perpetuating cycles of educational inequity. Therefore, this study seeks to evaluate the availability and quality of learning facilities and instructional materials in public and private early childhood development centres in Enugu State.

Purpose of the Study

The main purpose of this study is to evaluate learning facilities and instructional materials for early childhood education in public and private development centres in Enugu State. Specifically, the study was designed to;

1. Determine the extent to which learning facilities are available for implementation of ECE in public and private early childhood development centees in Enugu State.
2. Examine the extent to which instructional materials are provided for teaching in public and private early childhood development centres in Enugu State.

Research Questions

The following research questions were raised to guide the study;

1. To what extent are infrastructural/learning facilities provided in public and private ECD centres in Enugu State?
2. To what extent are instructional materials provided for implementation of ECE in public and private ECD centres in Enugu State?

Research Hypotheses

The following hypotheses tested at .05 level of confidence guided the study;

1. There is no significant difference in the mean ratings of teachers in public and private ECD centres on the extent learning/infrastructural facilities are provided for implementation of early childhood education.
2. There is no significant difference in the mean ratings to teachers in public and private ECD centres on the extent to which instructional materials are provided for use in implementation of early childhood education.

Early Childhood Education

Early childhood education, which encompasses kindergarten, nursery, and crèche, is the instruction given to children at a facility before they start primary school. A country's early childhood education system is its embryo. A child's early years have the greatest influence on the development of their IQ, personality, and social skills. According to Tombowua (2013), a child's learning is most significantly influenced by the years leading up to kindergarten. For this reason, contemporary civilisations take their children's education very seriously and provide them the help they need to excel in school in the future. According to Tombowua (2013), the majority of countries have early childhood care and development education programs of some kind available for children who are not yet officially school-age, mostly as a means of preparing them for primary school education. Early childhood care and development education is a program in the Nigerian educational system that has been given significance in the national policy of education (FRN, 2013) by the federal government of Nigeria, which recognises its relevance. According to Tombowua (2013), early childhood education is the kind of instruction provided to kids who are not yet old enough to start primary school. The author went on to say that it is a kind of semi-formal education that takes place outside of the home and exposes young children—roughly three years old—to play-

based activities in a group environment that are appropriate for their developmental stages in terms of mental, social, and physical learning until they reach the mandatory age for officially recognised schooling. The goal of early childhood education is to improve children's lives everywhere.

There are three forms of early childhood education: center-based, home-based, and hybrid, according to the Nigerian Educational Research and Development Centre (NERDC). These are: Pre-nursery/play group (ages 3–4), day care/Crèche (for ages 0–2), and nursery/kindergarten education (ages 3-5). Early Childhood Education has a flexible curriculum and a setting that is conducive to learning for both babies and adults. The furniture in the infrastructure is delicate and sensitive, with distinct kinds. Government laws and regulations support the development and administration of Early Childhood Education facilities, ensuring standardisation but little consistency (Tombowua, 2013). Since Early Childhood Education was included to the UBE program in 2004 in Nigeria, all public elementary schools are required to include it in their curriculum. Government funding is supporting this integration, which is also garnering support from the local population, private citizens, and international sponsorship. For example, from 2008 to 2011, the World Bank provided special funding to Kwara, Kaduna, and Kano, three states in the Federation, to establish model Early Childhood Education facilities. Model Early Childhood Education is implemented in public schools in Kwara state, mostly with money from foreign organisations including the World Bank, UNICEF, and ESSPIN (Education Sector Support Programme in Nigeria) and counterpart funding from the national budget.

Early childhood education in Nigeria is often connected with institutional programs that include certain components of educational activities for children aged three and above, whilst early childhood care services are related with the care of children under three. Instead of the government or public sector, private citizens and faith-based organisations manage a large portion of ECE services. Because of this, the provision is disjointed and difficult to evaluate. Some private settings refer to themselves as "kindergartens," while others refer to themselves as "nurseries." These classes' age ranges often change based on the owners' preferences and place of residence. Moreover, organisational patterns and attitudes about early children problematise problems pertaining to integrated services, educational methods, and teachers' professionalism. For example, it might be argued that the phrase "early childhood education" in pre-school settings is a new notion resulting from the words' current use in international discourse. The Nigerian government is now paying attention to a comprehensive strategy for attaining children's growth and well-being as a result of the term's adoption. As a result, the phrase has persisted in programs that serve as the "official" display of children's services, including policy papers, reports from public officials, and billboards for preschools. More crucially, the meanings associated with the term "early childhood education" influence both classroom practices and the way children's services are organised at the society level.

Infrastructural/ Learning Facilities in Early Childhood Education

The goals of early childhood education are not just to provide knowledge to children for memorisation, but also to foster in them an attitude of curiosity and produce notable improvements in their level of perception. Learning and teaching progress are impacted by the physical environment of early childhood education facilities. In order to teach kids to see and value beauty, a physically healthy environment is crucial. The aesthetic training of youngsters is greatly influenced by flowers, trees, bushes, lawns, photographs, and beautiful structures. The physical setting for early childhood education should primarily cater to the requirements, preferences, and interests of the child, as stated by Ejekwu (2020). Among other things, a well-designed physical environment gives kids the chance to play quietly (alone or with others in small groups) and to get moving with toys that have

wheels. They can also slide, rock, kick and throw balls, push and pull playthings, and climb, run, walk, roll, swing, and jump (Khan and Igbal, 2015).

Childhood is the most critical time in a child's development for social behaviour, IQ, and personality. In terms of how learning is impacted, a child's year before to kindergarten is the most significant. This is the reason why contemporary communities take their children's education seriously and provide the necessary resources to set them up for success in the classroom down the road (Briggs, 2019). The government of Nigeria created the following goals for pre-primary education in the Implementation Guidelines for ECE (FRN, 2013): (i) Establish and oversee minimum standards for early childhood care, development, and education in (ECCDE) centres; (ii) Create and distribute curriculum materials, such as the Integrated Early Childhood Development (IECD) policy; and (iii) Distribute the IECD curriculum, its implementation guidelines, and all other materials that will boost the implementation of ECE.

The National Minimum Standard for Early Childhood Care Education lists the following characteristics of an effective early childhood development centre: • Enough play space (16 square meters) for 20 to 25 children, well ventilated with at least two doors; • Flexible seating arrangements that allow for planning and interaction with other children; • Furniture including (a) child-size chairs (one per child) and one round table for four children, mats, locally made beds, and ma (b) A classroom whiteboard, either stationary or moveable. (c) IEC charts / posters / graphics that are gender neutral (d) Shelves and cabinets filled with kid-friendly products, such as food, bags, and water bottles, big enough to accommodate twenty-five. Display table or shelf (f) Carers' table and chair (e). A wall clock is the last item that has to be included (FGN/UNICEF/04).

A standard first aid box (splint, bandages, cotton wool, antiseptic, scissors, methylated spirit, adhesives, liniment, analgesic, thermometer, power, and petroleum jelly) and staff trained on their use, treatment of common ailments, and appropriate referral are among the health requirements for early childhood education brought forth by Ejekwu (2020). Other requirements include a weekly health inspection of the children, including oral hygiene and physical inspection, facilities for storing expressed breast milk and complementary feeding for children 0 to 2 years old, and monthly growth monitoring and promotion (with records). A health and nutrition corner with educational materials (porters, charts, models, etc.) will be provided, along with proof of a monthly visit from the school health service unit's health worker for routine immunisations, supplements, and other health services (and the availability of such records in the centre). Appropriate behaviour regarding the prevention and care of children affected by HIV/AIDS will also be required, along with daily physical activity schedules, connections to neighbouring health facilities, regular deworming (4–6 months), the creation of ECCDE parent clubs in the community, and other necessities. FGN/UNICEF, 2004). Health materials analysed by Chepkwesis (2015) included measuring cups, jugs, bottles, spoons (for tea and spoons), sugar and salt (for regular use and ORS), clean water, provision of extra clothes, IEC charts / posters / pictures, hand towels, and soap. Shakir arm strip/tape measure was also included in the analysis.

Physical school facilities, which include all kinds of buildings used for both academic and non-academic purposes, furnishings, equipment, ICT facilities, restrooms, library services, lab supplies, and other items, are essential to the efficient operation of the teaching and learning process (Hailx & Biyabeyen, 2014). The physical infrastructure and resources of schools are supplied to support the teaching and learning process in ECCDE (Khan and Igbal, 2015). When it comes to children's age and size, furniture and equipment should match. Nyaga (2013) claims that a preschool's physical development and the amount of weariness that children experience are significantly influenced by the furniture that is offered in the classroom. Also, the way kids play and learn might

be influenced by the furnishings. For a child's health and hygiene, sanitary conditions and hand washing stations are essential since clean hands stop the spread of infections and illnesses. According to Siali, Mwangi, Bola, and Rapongo (2016), the majority of public schools lack separate restrooms for early childhood education (ECE) students, endangering their health. It is essential to have enough physical facilities to support both the successful execution of the ECE program and teaching and learning activities. Parents' desire to register their children in certain early childhood education institutions is impacted by the absence of kid-friendly amenities in such facilities.

Instructional Materials needed for ECE Curriculum Implementation

Implementing the curriculum is a crucial step in the teaching-learning process. It has to do with putting the curriculum into practice. In addition to other requirements for curriculum implementation, this curricular exercise calls for staff, facilities, educational materials, competent management, and teaching strategies. Additionally, every curricular design or innovation has to be properly executed in order to have full significance. The degree of success is influenced by the way it is applied. Pedagogical resources are necessary for curriculum implementation. The following instructional supplies would be employed in the execution of the ECE program: primers, exercise books, pencils, ball pens, follow-up readers, and a clean, conducive atmosphere. Shaibu (2011) lists the following additional materials as necessary for the successful implementation of the ECE curriculum: a blackboard, a chalkboard, a portable board, a good physical classroom, an admissions register, class registers, a first aid box for the children, a wall clock, a record of the payment book, a canteen, restrooms, charting on walls, Globe, Nigerian map with Abuja and 36 states, bulletin boards, images and posters, word and phrase cards, film strips and slides, workbooks and primers, and news and publications.

Depending on the teachers, instructional materials may be beneficial or pointless. Sani (2018) contended that without a qualified teacher and students who are motivated to read, none of these teaching resources could really be helping to execute the ECE program. The teaching aids and resources were helpful and practical, enabling the teaching and learning process to be dynamic, lasting, and achievable. In teaching and learning scenarios, they might save both the teachers' and the students' time. Mallum and Ali (2016) have enumerated the significance of educational resources. The following are some of the reasons that pedagogical materials are useful: • Learning is lively; • Lesson clarity; • Time savings for both teachers and students; • Learners' attention is maintained; • Lessons are made interesting; • Knowledge is made permanent and useful; • Knowledge is made practicable; and so on.

According to Sani (2018), UNESCO (1962) proposed that instructional materials are essential for conducting meaningful teaching and learning. The aforementioned remark indicates that the creation of teaching and learning facilities is necessary for any effective learning activities to occur. To maintain interest in the classes and keep students' attention, instructional materials are still necessary in pre-nursery and nursery schools. According to Shaibu & Shaibu (2015), listing the benefits of the teaching materials was like playing a parlour game and was just a way to spend time. And further aspect of the conversation concerned the supply and accessibility of the educational resources. According to the authors, in order to use instructional resources for the mutual benefit of instructors and students, such materials must be appropriate, sufficient, and in line with the teaching style and learning applications of the instructors. Generally speaking, educational resources were helpful tools that might improve the application of ECE curricula in the research region, regardless of how good or bad they were.

Strategies of ECE Curriculum Implementation

Students can benefit from using a curriculum implementation strategy to build their self-esteem and confidence. For the purpose of making the lessons in the curriculum stick, the implementation strategy requires practical application. Some of the strategies for implementing the ECE curriculum include the following, according to Aliyu (2019).

a) A puppet is a small figure that is carried, held, or suspended in front of an audience on strings. Puppetry is a form of theatre that primarily appeals to younger audiences. Puppetry is a valuable teaching tool in early childhood education because it helps students explore how to turn their ideas and imagination into action. Speaking, acting, writing, and other activities are all part of puppetry. When done correctly, puppetry can serve as a sufficient training ground for aspiring poets, composers, artists, musicians, and so on.

b) Miming: acting out a scene verbatim is known as miming. This type of dramatisation is the simplest to prepare and perform because it doesn't rely on complex concepts (Aliyu, 2019). With miming, students can act out any scenario in ECE. Actions, gestures, and body language are crucial because voice is not used. Drama without dialogue is how one could characterise it. The dancer would simply mimic the body language and dancing steps of a specific culture, like TIV, when teaching cultural dancing as a cultural component. A playlet is a brief theatrical piece intended to convey a tale or concept. For illuminating certain concepts during a lesson, playlets are especially helpful. While they are occasionally used, furniture, accessories, makeup, and costumes are not necessary for playlets. Different from miming, which relies solely on action, playlets require the player to speak and act (Aliyu, 2019).

c) Games: Games are another way that the ECE curriculum can be used. According to Ogunsanya (2018), this is because kids enjoy playing games both inside and outside of schools. Games are group activities in which two or more participants compete with one another to demonstrate virtues such as knowledge, values, attitudes, and skill sets that can determine a winner (Aliyu, 2019). Several educational goals, particularly the development of positive social skills and useful knowledge, are attained by the creation and application of games in early childhood education (ECE) classrooms. The interest of students in the study is piqued and maintained by games. It enhances the realistic and natural feel of the learning process. Recall is also made simpler and learning is made more durable. There are several restrictions on games. Students must wait their turn and the facilities are inadequate, making it a time-consuming process. Should the younger students not be supervised, the lesson's primary objective may be obscured by the excitement that ensues from the game. It may also lead to unhealthy competition among students in the class.

d) Narrative: A narrative is an elaborative depiction of an incident that pertains to human experience and education. A fictional story (folktales) or a true story (non-fiction) could be told. Storytelling is an easy way to make learning and recall simple. Using stories to teach attitudes, decision-making, and communication skills is a strategy advocated by Odedokun (2015). Encouraging and socially acceptable cultural values can be imparted to children through this specific teaching method. In lower primary classes, it is not used effectively. The purpose of storytelling is to influence the behaviour of young people by imparting lessons from history or a people's culture. When instructive storytelling is done well, students' attention and interests are captured, and their behaviour is influenced in a positive way.

e) Role-Play Method: According to Aliyu (2019), role-playing is a more specialised kind of acting. It is the act of assuming the role of someone else, particularly when it comes to facets of daily life or human functioning (behaviour). Usually an impromptu, unrehearsed play, it is a common tool for depicting a social institution. This

method typically involves no elaborate preparation, may not involve rehearsals, and usually does not involve a prepared script to memorise. By becoming emotionally invested in the boundaries of their prior experiences, participants take part in the show. The development of attitudes, decision-making expertise, and communication abilities are all best served by this approach.

Theoretical Framework

The theory that guided the study is the Cognitive Theory by Piaget (1936)

The Piaget Cognitive Theory

Piaget's Theory of Cognitive Development serves as the foundation for this research. The ability to do "abstract symbolic reasoning" is what he believed to set humans apart from other animals. Piaget's theory of cognitive development is a comprehensive theory about the nature and development of human intelligence. Piaget was originally trained in the fields of biology and philosophy and considered himself a "genetic epistemologist." He was mainly interested in the biological influences on "how we come to know." Based on Piaget's theory, a person's development is significantly influenced by their childhood. The term "developmental stage theory" refers to Piaget's theory in its entirety. The idea addresses how knowledge is created, acquired, and used by people across time (McLeod, 2012). Based on biological maturation and contextual experiences, Piaget defined cognitive development as a gradual reorganisation of mental processes. He felt that kids gain an awareness of the world around them, notice differences between what they know and what they see, and modify their beliefs appropriately (McLeod, 2012).

Piaget got interested in child cognition while working at Binet's IQ testing lab in Paris. The younger children, he observed, did not answer the questions in the same way as their older peers because they thought differently. Rather, the younger children answered the questions in a qualitatively different way than their older peers, indicating that they were not necessarily dumber (a quantitative view held as they grew older and gained more experience). The process of knowing and the phases we go through as we progressively gain this capacity are the two main components of this idea.

1.Cognitive Development Process: Piaget, a biologist, was interested in how an organism adapted to its environment a process he called intelligence. Behaviour, or adaptation to the environment, is governed by mental structures known as schemata, which are mental arrangements that a person uses to represent the world and indicate behaviour. The biological need for equilibrium a state in which systems and the environment are in harmony—is what motivates adaptation.

For other species, these "reflexes" regulate conduct throughout life, and Piaget postulated that newborns had schema functioning from birth. On the other hand, in humans, these reflexes are swiftly replaced with created schemata as the child utilises them to adapt to its surroundings. In an effort to adapt, a human uses two processes, assimilation and accommodation, according to McLeod (2012). In order to adapt to their surroundings in a more sophisticated way throughout their lives, people employ both of these processes.

In order for the environment to be incorporated into pre-existing cognitive structures, it must be used or transformed via assimilation. Restructuring cognitive structures to accommodate new information from the environment is known as accommodation. During life, both procedures are used concurrently and in turn (McLeod, 2012). Assimilation may be seen by the way a baby tries to suck on a bigger bottle using a sucking schema that was formed by sucking on a little bottle. If a youngster has to change their sucking schema from one that they learnt from sucking on a dummy to one that works better when they suckle from a bottle, it is an example of an accommodation. Schemas are referred to be structures when they are more sophisticated, meaning they are

accountable for more complicated actions. Structures get increasingly complicated when they are arranged hierarchically, from general to particular.

Four phases were recognised by McLeod (2012) as phases of cognitive growth, and they are outlined below:

1.Stage of sensory motor development (infancy). Throughout these six phases, physical action serves as a substitute for symbolic language in demonstrating intellect. Because knowledge is derived from physical encounters and experiences, it is restricted, but it is growing. Object permanence (memory) begins to develop in children at around 7 months old. Piaget in McLeod, 2012 states that a child's physical growth, or movement, enables the infant to start acquiring new cognitive capacities. At the conclusion of this phase, some symbolic (linguistic) skills emerge;

2.the toddler and early childhood pre-operational period. This phase (which consists of two smaller phases) sees the development of memory and imagination, the use of symbols to express intellect, the maturation of language, and the application of logic and reversibility to thought processes. Thinking that is egocentric is common;

3. Elementary and early adolescence constitute the concrete operational stage. Here, intelligence is shown by the rational and methodical manipulation of symbols associated with tangible things. This stage is defined by seven forms of conservation: number, length, liquid, mass, weight, area, and volume. Thinking that can be reversed in the mind is called operational thinking. Diminished egocentric thinking also

4.Adulthood and adolescence constitute the formal operational stage. The logical application of symbols connected to abstract notions is how intelligence is shown at this level (McLeod, 2012). A return to egocentric mentality is shown early in the time. In developed nations, only 35 percent of high school graduates pursue formal operations; many adults do not develop formal thought patterns.

As mentioned earlier, Piaget's theory served as part of the basis for constructivist learning, which is modelled in many preschool and primary programs. Two of the most important teaching strategies are fostering a child's growing interests and using discovery learning. Parents and educators should push their children to reach their full potential, but they shouldn't give them knowledge or materials that are too advanced for them. In order to aid in a kid's learning, educators are advised to use a diverse range of tangible experiences, such as field excursions, group projects that require the child to view things from another person's perspective, and the usage of manipulatives.

In other words, case studies served as the main foundation for Piaget's descriptive research methodologies. More experimental techniques and correlation have validated some of his theories, but not all of them. According to Piaget, for instance, the progression from one cognitive stage to the next is determined by bodily development. The phases of Piaget's theory of cognitive development are listed below. The nature and development of human intellect at a young age are discovered to be closely related to this idea, which is significant to the study. Based on Piaget's theory, a person's development is significantly influenced by their childhood.

The Cognitive Theory by Piaget (1936) has a direct and important relationship to the study of early childhood education (ECE) implementation in Enugu State, particularly in terms of how children develop and learn within these educational systems. Piaget’s theory emphasizes that children go through distinct stages of cognitive development, each characterized by specific ways of thinking and learning. These stages—sensorimotor, preoperational, concrete operational, and formal operational—highlight how children gradually build their understanding of the world through active engagement and interaction with their environment.

In the context of this study, Piaget’s theory provides a framework for evaluating whether ECE programs are designed to support children's cognitive growth at each developmental stage. For instance, the curriculum,

teaching methods, and learning materials used in ECE centers must be developmentally appropriate, meaning they should align with the cognitive abilities of the children being served. This theory emphasizes the importance of constructing environments that not only stimulate learning but also encourage children to explore, experiment, and interact with their surroundings in ways that are consistent with their stage of cognitive development.

By applying Piaget's theory, the study can assess how well the implementation of ECE programs in Enugu State fosters cognitive development. Are the teachers well-equipped to guide children through these developmental stages? Is the curriculum structured to challenge children in ways that promote their cognitive growth? These are the kinds of questions that Cognitive Theory helps address, ensuring that the quality of education is not only measured by the presence of physical resources or policies but by the extent to which children are actively learning and developing.

Empirical Review

Ejekwu (2020) carried out a research on the significance of physical infrastructure in the implementation of early childhood education programs in Rivers State, Nigeria. The study looked at the connection between physical infrastructure and quality early childhood education using a correlational research design type descriptive survey. Two possibilities were investigated. The survey included 1,592 respondents from the 530 early childhood education centers in Rivers State. A mix of basic random sampling methods and stratified random sampling was used to produce the sample. The study's findings demonstrated a strong correlation between classroom furnishings and the successful implementation of early childhood education. The focus on physical learning environments in ECE was a key aspect of both the reviewed and current research. However, the extent and regional differences created the gap that the current research addressed.

Jones (2020) carried out a longitudinal cohort study in Australia to investigate the connection between infrastructure and the quality of the early childhood education curriculum. The study included early childhood education and care (ECEC) services offered throughout the nation. A representative sample of 200 ECEC services was chosen using stratified random sampling. Regression analysis was used to evaluate the relationship over time between curriculum quality and infrastructure characteristics. The results showed a positive connection, indicating that high-quality curriculum implementation was more likely to be seen in services with well-maintained, developmentally appropriate facilities. This highlighted the importance of infrastructure in improving the overall efficacy of curricula in the Australian early childhood education and care system. There are similarities between this research and Jones's Australian longitudinal cohort study, which investigated the connection between early childhood curriculum quality and infrastructure. Both studies emphasize the significance of infrastructure in determining curricular success. Jones's emphasis on early childhood education and care services aligns with the study's broad objectives. In contrast to the current study's temporal focus, the longitudinal approach may provide insights into changes over time. Despite differences in location, both studies advance our understanding of the relationship between curriculum quality and infrastructure.

Mkhize (2019) examined the physical facilities of South African early childhood development (ECD) centers and the implications for curriculum implementation. Using a mixed-methods methodology that included surveys and in-depth interviews, Mkhize purposively sampled 50 ECD centers from both urban and rural areas. The research found differences in the quality of infrastructure, with metropolitan areas often having more advanced amenities than rural areas. In rural locations, problems including restricted access to water and power were more common, suggesting the need for context-specific interventions to assist curriculum implementation in various settings. Mkhize's research conducted in South Africa sheds light on the infrastructural issues faced by early childhood

development centers in both urban and rural areas. This is consistent with the current study's analysis of the infrastructure problem in Nigeria's Enugu State. Mkhize's mixed-methods approach, combining survey data with in-depth interviews, is similar to the methodological variety used in this work. The physical setting, however, differs in terms of cultural and economic aspects. Mkhize's research highlighted the differences between urban and rural areas, emphasizing the significance of interventions tailored to the unique situation. Even if the specific challenges may vary, the current research is relevant given the general emphasis on contextual changes.

Andihe (2018) conducted a study titled "Exploring Instructional Materials Adequacy in Rural Early Childhood Development Centres in Johannesburg." Using a mixed-method methodology that included both surveys and qualitative interviews, the research examined the adequacy of teaching materials at 60 Early Childhood Development (ECD) centers located in rural areas. The researcher focused on the influence on curriculum implementation by uncovering differences in material sufficiency across several rural ECD sites. The context-specific issues found in South Africa are consistent with the Enugu State study's emphasis on understanding the availability of instructional resources. Potential differences are introduced by the distinct socioeconomic factors and legislative framework.

Research Method

The study used the descriptive survey approach. The study area of the study is Enugu State, one of the states in Nigeria's South East geopolitical zone. The study's population consisted of 3,853 teachers from public and private early childhood institutions across 17 Local Government Education Authorities in Enugu State. There are 2,853 teachers in public early childhood education centers and 1,000 teachers in private early childhood education centers (Source: Board for Universal Basic Education, Enugu State, 2024). For the research, only private early childhood education facilities authorized by the Universal Basic Education Board (UBEB) in Enugu were utilized. The study's sample size was 510 respondents. A multistage sampling approach was used. Using simple random and proportional sampling procedures, ten percent (10%) of the seventeen Local Government Education Authorities' ECE centers were selected for the initial sampling phase, acquiring 170 ECE centers. Three instructors were chosen at random from each of the 170 ECE centers in the second round of sampling, totaling a sample of 510 instructors, with 190 from private ECE centers and 320 from public ECE centers. A questionnaire created by the researcher was the tool used to gather data for this investigation. The Implementation of Early Childhood Education Programme Questionnaire (IECEPQ) was a structured questionnaire based on the study's research questions. The questionnaire was administered using direct delivery approaches by the researcher. Descriptive and inferential statistics were used for data analysis. The two research questions were analyzed using mean and standard deviation, and the homogeneity of the respondents' mean ratings was ascertained using standard deviation. The total weighted frequency was used to calculate the mean ratings for each item. A mean rating of 2.50 or more was considered agreeable, while a rating of less than 2.50 was considered disagreeable. The two null hypotheses were tested using inferential statistics of the t-test at the 0.05 level of significance. The null hypothesis was rejected if the p-value was less than or equal to the 0.05 alpha level ($p < 0.05$); otherwise, it was not rejected. All analyses were performed using the Statistical Package for Social Sciences (SPSS).

Data Presentation and Results

Research Question 1: To what extent are infrastructural/learning facilities provided in public and private ECD centres in Enugu State?

Table 1: Mean ratings and standard deviation on the extent to which infrastructural/learning facilities are provided in public and private ECD centres in Enugu State (n = 489)

SN	Items	Public (N=312)		Private (N=117)		Overall		Decision
	Extent infrastructural/ learning facilities are provided	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	
1.	Available classroom spaces meet the needs of early childhood education activities.	2.11	0.85	3.05	1.08	2.45	1.04	LE
2.	Play areas accessible and well-equipped for outdoor activities related to the early childhood are available.	2.06	0.88	3.03	1.12	2.41	1.08	LE
3.	Safety measures (fences, first aid kits, fire exists) are put in place to ensure a secure learning environment in ECD centres.	2.09	0.83	3.03	1.11	2.43	1.04	LE
4.	The sanitary facilities for children use in the early childhood education centres are provided.	2.02	0.84	2.97	1.16	2.36	1.07	LE
5.	Bookshelves for use are provided	1.96	0.87	2.99	1.15	2.33	1.10	LE
6.	Facilities such as staff room and offices for teachers are available for supports, planning and coordination of early childhood education programme.	2.08	0.88	3.06	1.11	2.43	1.07	LE
7.	Facilities such as staff rooms and offices for planning, and coordination for the early childhood education, available	2.08	0.86	3.00	1.12	2.42	1.06	LE
8.	Health and hygiene practices such as general environmental cleanliness, waste disposal, and health protocols are maintained in ECD centres.	2.11	0.80	2.85	1.06	2.38	0.97	LE
9.	Facilities are designed to be accessible and inclusive for children with special needs, to promote inclusive early childhood education, in ECD centre	2.18	0.79	2.68	1.06	2.36	0.93	LE
10.	Outdoor learning spaces, beyond traditional play areas, are available to enhance the early childhood education.	2.46	0.90	2.43	0.82	2.45	0.87	LE
Grand $\bar{x}$ and SD		2.12		2.91		2.40		LE

Results of analysis in Table 1 showed the mean ratings and standard deviation on the extent to which infrastructural/learning facilities are provided in public and private ECD centres in Enugu State. The results showed that the overall mean response of items 17 to 26 were less than the cut-off point of 2.50, indicating Low Extent (LE). The overall grand mean response was low for public ECD centres ($\bar{x}$ = 2.12, SD = 0.85) but high for private ($\bar{x}$ = 2.91, SD = 1.08) ECD centres. The value of the overall mean response ($\bar{x}$ = 2.40, SD = 1.02) was also less than the cut-off point. This implied that the extent to which infrastructural/learning facilities are provided in Enugu State were provided in public and private ECD centres in Enugu State were low.

Research Question 2: To what extent are instructional materials provided for implementation of ECE in public and private ECD centres in Enugu State?

Table 2: Mean ratings and standard deviation on the extent to which instructional materials are provided for implementation of ECE in public and private ECD centres in Enugu State (n = 489)

SN	Items	Public (N=312)		Private (N=117)		Overall		Decision
	To what extent;	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	
1.	Are variety of educational toys provided to support the diverse learning needs of children in the early childhood development centres?	2.39	0.88	2.64	0.94	2.48	0.91	LE
2.	Are high quality of learning aids such as charts, posters, and visual materials provided to support early childhood education?	2.35	0.90	2.64	0.94	2.45	0.93	LE
3.	Are story books and literature resources provided to enhance language development in the early childhood education?	2.15	0.81	2.79	1.05	2.38	0.95	LE
4.	Are manipulative materials for mathematics education provided to facilities hands-on learning experience?	2.18	0.89	3.03	1.13	2.49	1.06	LE
5.	Are technology-based instructional materials (e.g., educational apps, interactive software) integrated into the early childhood education programme?	2.05	0.87	2.97	1.16	2.38	1.08	LE
6.	Are artistic and craft materials provided to foster creativity and self-expression in the early childhood education?	2.06	0.88	2.92	1.18	2.37	1.08	LE
7.	Are musical instruments provided to support the integration of music and movement in the early childhood curriculum?	2.02	0.88	2.94	1.17	2.35	1.09	LE
8.	Are science-related instructional materials needed to promote hands-on exploration in the early childhood education provided in ECD centres?	2.07	0.88	3.00	1.14	2.41	1.08	LE
9.	Are equipment for physical education activities provided to enhance motor skills development in the early childhood education programme?	2.11	0.89	3.02	1.14	2.44	1.08	LE
0.	Are literacy development tools such as letter cards, phonics materials, and word games in the early childhood education provided in ECD centres?	2.06	0.88	2.97	1.16	2.39	1.08	LE
Grand $\bar{x}$ and SD		2.14		2.89		2.42		LE

Results of analysis in table 2 showed the mean ratings and standard deviation on the extent to which instructional materials are provided for implementation of ECE in public and private ECD centres in Enugu State. The results showed that the overall mean responses of items 27 to 36 were less than the cut-off point of 2.50, indicating Low Extent (LE). The overall grand mean response was low for public ECD centres ($\bar{x}$ = 2.14, SD = 0.88) but high for private ($\bar{x}$ = 2.89, SD = 1.10) ECD centres. The value of the overall mean response ($\bar{x}$ = 2.42, SD = 1.03) was also less than the cut-off point. This implied that the extent to which instructional materials were provided for implementation of ECE in Enugu State was low. However, it was low in public ECD centres, but high in private ECD centres.

Test of Hypotheses

Hypothesis 1: There is no significant difference in the mean ratings of teachers in public and private ECD centres on the extent learning/infrastructural facilities are provided for implementation of early childhood education.

Table 3: T-test Analysis of mean ratings of teachers in public and private ECD centres on the extent learning/infrastructural facilities are provided for implementation of early childhood education

Respondents	N	Mean ($\bar{X}$)	Std. Deviation (SD)	df	t-cal	Sig.	Dec.
Public	312	2.12	0.35	487	14.38	0.00	S
Private	177	2.91	0.86				

Table 3 shows that the t-value for the difference in mean ratings of teachers in public and private ECD centres on the extent learning/infrastructural facilities are provided for implementation of early childhood education is 14.38 at 0.05 level of significance and 487 degree of freedom. Since the significance value (Sig. =0.00) is less than the benchmark of 0.05, the null hypothesis is not accepted as stated. Hence, there is significant difference between the mean ratings of teachers in public and private ECD centres on the extent learning/infrastructural facilities are provided for implementation of early childhood education. The difference is in favour of private ECD cecntres.

Hypothesis 2: There is no significant difference in the mean ratings of teachers in public and private ECD centres on the extent to which instructional materials are provided for use in implementation of early childhood education.

Table 4: T-test Analysis of Mean Ratings of teachers in public and private ECD centres on the extent to which instructional materials are provided for use in implementation of early childhood education

Respondents	N	Mean ($\overline{X}$)	Std. Deviation (SD)	df	t-cal	Sig.	Dec.
Public	312	2.14	0.44	487	12.30	0.00	S
Private	177	2.89	0.91				

Table 4 shows that the t-value for the difference in mean ratings of teachers in public and private ECD centres on the extent to which instructional materials are provided for use in implementation of early childhood education is 12.30 at 0.05 level of significance and 487 degree of freedom. Since the significance value (Sig. =0.00) is less than 0.05 level of significance, the null hypothesis is not accepted as stated. Hence, there is significant difference between the mean ratings of teachers in public and private ECD centres on the extent to which instructional materials are provided for use in implementation of early childhood education. The difference is in favour of private ECD centres.

Summary of Findings

The results of data analysis revealed that:

1. The extent to which infrastructural/learning facilities are provided in Enugu State was low. However, it was low in public ECD centres, but high for private ECD centres. There is significant difference between the mean ratings of teachers in public and private ECD centres on the extent learning/infrastructural facilities are provided for implementation of early childhood education.

2. The extent to which instructional materials are provided for implementation of ECE in Enugu State was low. However, it was low in public ECD centres, but high in private ECD centres. There is significant difference

between the mean ratings of teachers in public and private ECD centres on the extent to which instructional materials are provided for use in implementation of early childhood education.

Conclusion

The findings from this study highlight a critical disparity in the provision of learning facilities and instructional materials between public and private Early Childhood Development (ECD) centres in Enugu State. While the availability of learning facilities and instructional materials was generally low across the state, private ECD centres consistently outperformed their public counterparts. The provision of learning facilities in private centres was significantly higher compared to public centres, which face persistent infrastructural inadequacies. Similarly, instructional materials were more adequately supplied in private centres, while public centres struggled to meet the basic requirements for implementing early childhood education.

These findings underscore significant inequities in the quality of early childhood education offered in public versus private settings, despite the shared goal of fostering the holistic development of young learners. The significant differences in the mean ratings of teachers from public and private centres on both learning facilities and instructional materials reveal systemic challenges in resource allocation and policy implementation for public centres.

Addressing these gaps is imperative to ensuring equitable access to quality early childhood education in Enugu State. Collaborative efforts from policymakers, educational stakeholders, and community leaders are essential to improve funding, resource distribution, and infrastructural development in public ECD centres. By prioritizing these interventions, the state can provide a more enabling environment for early childhood education, ensuring that all children, irrespective of the type of centre they attend, receive the foundational support needed for lifelong learning and development.

Recommendations

Considering the findings of the study, the following recommendations are made by the researcher:

1. Educational policy makers should review and enhance the early childhood education curriculum to ensure it is comprehensive, developmentally appropriate, and aligned with best practices. Efforts should be made to provide ongoing support and resources to teachers to effectively implement the curriculum, including guidelines, lesson plans, and teaching materials.
2. Educational stakeholders should allocate resources to upgrade and maintain infrastructure and learning facilities in public and private early childhood development centers. This includes ensuring safe and stimulating learning environments, adequate classroom space, play areas, sanitation facilities, and access to educational materials such as books, toys, and technology.

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