

EFFECT OF CURRICULUM ALIGNMENT ON EARLY CHILDHOOD FRAMEWORKS AND PRIMARY SCHOOLS STANDARDS IN NIGERIA

Akoye-Ebere Adaora Onyeka

Department of Political Science

Alvan Ikoku Federal University of Education, Owerri, Imo State

akonyeadaora@yahoo.com

Tel: 09063102243

Abstract

Curriculum alignment is a prevailing tool for driving early childhood frameworks and primary schools standard in Nigeria's formal education sector with the goal of transiting the quality of education from its current state to a desired future state. This is a descriptive survey research design that investigated the effect of curriculum alignment on early childhood frameworks and primary schools standards in Nigeria. This study was carried out in the selected public primary schools in the south-east zone of Nigeria with 200 purposefully sampled respondents comprising of 100 teaching and 100 non-teaching staff of the selected schools. The data for this study was collected via a researcher-made rating scale titled "Curriculum Alignment and Early Childhood frameworks and Primary Schools Standards in Nigeria" (CAECFPSS) which was validated by three experts, one from educational curriculum, one from educational administration and the other from educational measurement and evaluation departments. Their observations were used to correct the questionnaire to achieve the desired objectives of the study. The reliability index was 0.84 using the Person Product Correlation coefficient formula (r). The Cronbach alpha was also adopted to reconfirm the internal consistency of the questionnaire which recorded a correlation coefficient value of 0.83. These two values indicated that the instrument is very reliable for use. Two research objectives, two research questions and two hypotheses were respectively formulated to guide the study. The mean and standard deviation statistical tools were used to analyse the data at 2.50 decision mark. The independent z-test was adopted in testing the hypotheses at 0.05 significant level and the result revealed that there is no significant difference between the mean score of teaching and non-teaching staff in the selected public schools in the south-east zone of Nigeria on the effect of curriculum alignment on early childhood frameworks and primary schools' standards in Nigeria. Based on these findings, the study recommended the establishment of joint review committees involving early childhood and primary education specialists to ensure learning goals, content and pedagogical approaches progress logically across levels.

Keywords: Curriculum Alignment, Early Childhood Frameworks, Primary Schools Standards, Education

Introduction

The transition from early childhood education and care to formal primary schooling represents one of the most significant ecological and pedagogical shifts in a child's educational trajectory. Across international contexts, this transition has been framed as a critical juncture that can either sustain or disrupt early developmental gains, with long-term implications for academic self-concept, learning dispositions, and subsequent achievement. In response to this understanding, many national education systems have adopted a two-tiered curricular. The relationship between curriculum alignment and primary school standards in Nigeria is about making sure what is taught in classrooms matches the learning outcomes set by NERDC, and that each year builds on the last without gaps or duplication. When alignment is strong, the standards act as a coherent roadmap for teachers, learners, and assessment.

According to Hakeem & Akpan (2021) alignment is the extent to which curricular expectations and assessments are in agreement, and work together to provide guidance for educators' efforts to facilitate students' progress toward desired academic outcomes. In Nigeria, that means the subjects, topics and skills in the NERDC primary curriculum should directly correspond to what teachers actually teach and what assessments measure in Primary 1-6. In practical terms that alignment reduces discrepancies between the intended process and the actual process. For Nigerian primary schools, that means less time spent reteaching topics that were missed or repeating content that was already covered.

Before 2025, the NERDC curriculum for Primary 1-3 included English Studies, Mathematics, Nigerian Language, Basic Science & Technology, Religion & National Values, Cultural & Creative Arts, and optional Arabic. Teachers reported that the structure was "too fragmented and difficult to manage, especially for children just starting school". That fragmentation created misalignment between the intended curriculum and what could be delivered in 35-40 minute lessons. The New Nigerian Primary School Curriculum for Primary 1-3, 2025 simplified the structure. It now lists 10 areas including; English Language, Mathematics, Basic Science and Technology, Cultural & Creative Arts, Religion and National Values, Social Studies and Civic Education, Nigerian Language, Basic Digital Literacy, Pre-Vocational Studies and optional Arabic. The goal, according to the update, was to reduce fragmentation and introduce subjects like Basic Digital Literacy that reflect current learning needs. Curriculum alignment is very important for standards implementation because when standards are aligned, teachers have a clear sense of progression (Obizue & Obizue, 2025). They cited a reference in English Language, that at Primary 1-3, the 2025 curriculum focuses on reading and comprehension, writing simple sentences, correct spelling and grammar, listening and speaking skills with an expectation that pupils should be able to read a short story and explain the moral lesson in their own words. If pre-primary foundations in oral language and phonics are aligned to this, Primary 1 teachers do not start from zero.

Olujide (2018) defined curriculum alignment as the relationship between content validity in assessment, content coverage and the opportunity to learn. In Nigeria, this means that if Basic Digital Literacy is now a standard subject, schools need the opportunity to teach it and

assessments should measure what was actually taught, not just what is in the textbook. Early childhood and primary education in Nigeria is a continuum and any disjointed planning between levels undermines learning and the same logic applies within primary school, Primary 1-3 standards should flow into Primary 4-6 without abrupt changes in approach (Akamka, 2022). It is important to note that variation in early education meant children entered primary school with different levels of preparation. Akamka (2022) continued that curriculum alignment of the primary standards to a common set of outcomes helps reduce that variation, but only if teachers across schools interpret and deliver the curriculum consistently.

The NERDC, as the Think-Tank of Nigerian Education and Development, has the mandate to revise and align the curriculum hence the 2025 update is an attempt to improve coherence by cutting down subject overload and adding relevant skills like digital literacy. When alignment is working, three things happen. First, teachers can plan across years because they see how Primary 2 Mathematics builds on Primary 1 concepts. Second, assessment data becomes more reliable because it measures the standards that were taught. Third, pupils experience fewer gaps, which improves progression and reduces dropout risk at transition points. If alignment is weak, you get what Wenzel called discrepancies between intention and reality: standards say one thing, classrooms do another, and assessment tests something else entirely. That is why the 2025 revision focused on simplifying and integrating subjects, so teachers can manage delivery and maintain alignment.

Understanding the nature and degree of curriculum alignment between early childhood frameworks and primary standards requires first a clear theoretical grounding. Alignment, in the educational measurement and curriculum studies literature, is not a monolithic concept, rather a multidimensional construct that encompasses several distinct but interrelated criteria. Drawing on the seminal work of Norman Webb (1997) and later refinements by Andrew Porter and his colleagues (Porter, 2002; Porter et al., 2007), vertical alignment that is, alignment across successive levels of schooling is typically operationalised through three core dimensions. The first is categorical concurrence, which refers to the extent to which the same or logically related content categories (such as number sense, phonological awareness, or scientific inquiry) appear in both the earlier and later framework. The second dimension is depth-of-knowledge consistency, which examines whether the cognitive demand or complexity of learning objectives increases appropriately from the early years to the primary level, avoiding both excessive jumps and redundant flatness. The third dimension is range-of-knowledge correspondence, which assesses whether there are content gaps (topics present only in the primary framework but not addressed at all in the early years) or content redundancies (topics excessively repeated without progression). When these three conditions are met, a curriculum is said to be vertically coherent and children can be expected to experience a smooth transition wherein prior learning is recognised, valued, and built upon. When they are not met, the curriculum becomes a source of discontinuity, potentially leading to disengagement, frustration or the need for extensive remediation.

The policy landscape in which this alignment problem is situated has become increasingly complex over the past two decades. On the one hand, the early childhood field has moved decisively towards frameworks that emphasise holistic development, play-based pedagogy and emergent, child-initiated learning. Most scholars favour frameworks that are characteristic of effective learning such as playing and exploring, active learning and creating and thinking critically and primary school standards characterised by detailed, content-specific and often grade-by-grade mastery expectations. These frameworks assess children's progress against broadly described Early Learning Goals that often privilege process over product, for example statements about children safely using and exploring a variety of materials or developing their own narratives and explanations by connecting ideas or events. They assume that children can demonstrate discrete, measurable outcomes, such as using spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas or solving problems involving missing numbers. The epistemological tension between these two curricular logics is profound: the early years framework operates within a developmental, constructivist, and relational epistemology, whereas the primary standards framework is rooted in a performative, behaviourist and outcomes-based epistemology. It is this fundamental epistemic misalignment that gives rise to the practical difficulties observed in classrooms, yet surprisingly few empirical studies have systematically quantified the gap at the level of written curriculum objectives.

Currently, the empirical literature on early childhood to primary transitions has been dominated by qualitative and teacher-report studies. These have provided invaluable insights into the lived experiences of children and educators. More recently, teachers have reported spending substantial amounts of the first primary school term re-teaching content from the early years or conversely, accelerating children into abstract concepts for which they lack concrete foundations (Edmond, 2017). However, these studies have largely treated the curriculum as a background variable rather than measuring its alignment directly. Fagbalo & Abaze (2022) validated by their assertion that the few quantitative alignment studies that exist have focused on alignment between primary and secondary levels rather than on the early childhood and primary boundary. As a result, there is a notable absence of systematic, empirical evidence on how well early years frameworks and primary standards actually correspond in terms of content categories and cognitive demand. This gap is significant because without such evidence, policy debates about transition remain based on anecdote and ideology rather than on data-driven diagnosis. Policymakers may continue to assert that a "seamless curriculum" exists, while teachers and children experience the consequences of its absence.

Several additional factors make the present study timely and necessary. First, the global trend towards universal pre-primary education has increased the number of children who experience formal early years frameworks before entering primary school. Consequently, the quality of the alignment between the two phases now affects a larger proportion of the child population than ever before. Second, international comparative assessments such as the Progress in International Reading Literacy Study (PIRLS) and the Trends in International Mathematics and Science Study (TIMSS) have shown that countries with highly coherent, vertically aligned

curriculum systems such as Singapore, Finland and Japan tend to outperform those with fragmented or loosely coupled systems (Schmidt et al., 2005). Understanding alignment at the earliest transition point may therefore offer leverage for improving later outcomes. Third, the COVID-19 pandemic disrupted early years provision and primary schooling in unprecedented ways, exacerbating existing discontinuities and reducing opportunities for professional dialogue between early years and primary educators. In this context, clarifying the structural alignment or misalignment of the written curriculum becomes an essential first step towards designing targeted bridging interventions.

Finally, it is important to note that alignment is not merely a technical or psychometric concern; it carries profound equity implications. Children from less advantaged backgrounds tend to be more vulnerable to curriculum discontinuities, because they have fewer home-based resources to bridge gaps or compensate for redundancies (Izuka, Onyejiaka & Ezema, 2025). Obizue & Obizue(2025) posited that when an early years framework fails to prepare children for the specific cognitive demands of the primary standards, it is often children already at risk who suffer the most, as they experience the misalignment as a double disadvantage, they receive less preparatory scaffolding at home and they encounter a school curriculum that assumes knowledge they were never taught in the early years setting. Therefore, measuring and subsequently improving vertical alignment is not simply an exercise in curriculum efficiency but it is an issue of educational justice.

Again, despite policy rhetoric advocating for a seamless transition from early childhood education to formal primary schooling, there exists a fundamental epistemic and structural disconnect between play-based, holistically oriented early years frameworks and subject-specific, outcomes-driven primary school standards. This misalignment manifests as significant gaps in content coverage and abrupt increases in cognitive demand that the written curriculum does not adequately scaffold. Consequently, children experience a transition shock during their first months of primary school, and teachers are forced to engage in unofficial, uncompensated bridging practices that consume instructional time and undermine curricular coherence (Ibrahim, 2019). However, existing literature has largely documented these problems through qualitative teacher reports without providing systematic, quantified evidence of the precise dimensions of misalignment namely categorical concurrence, depth-of-knowledge consistency, and range correspondence between the two sets of standards. The present study is therefore necessitated to address this gap by empirically measuring the degree of vertical alignment between early childhood frameworks and primary school standards in Nigeria, thereby providing the evidence base needed to diagnose specific discontinuities and inform policy interventions towards enhancing the quality and standard of Nigeria formal education.

This study primarily seeks to examine the effect of curriculum alignment on early childhood frameworks and primary school standards in Nigeria.

The study targets to achieve the following specific objectives;

1. To determine the effect of curriculum alignment on early childhood frameworks in Nigeria.
2. To ascertain the relationship between curriculum alignment and primary school standards in Nigeria.

In line with the specific objectives, the following research questions were formulated in this study;

1. What is the effect of curriculum alignment on early childhood frameworks in Nigeria?
2. What is the relationship between curriculum alignment and primary school standards in Nigeria?

In consonance with the research objectives, two null hypothesis was postulated to guide this study and it stated thus;

HO₁: There is no significant difference in the mean ratings of teaching and non-teaching staff of public primary schools on the effect of curriculum alignment on early childhood frameworks in Nigeria.

HO₂: There is no significant difference in the mean ratings of teaching and non-teaching staff of public primary schools on the relationship between curriculum alignment and primary school standards in Nigeria.

Literature Review

Concepts

Curriculum Alignment

Curriculum alignment is the deliberate structuring of learning expectations, teaching practices and assessment so they reinforce the same educational goals. It's less about producing a document and more about ensuring that what's intended, what's taught and what's measured actually correspond to one another in practice. It is the whole idea that what students are expected to learn, what teachers actually teach and how learning is assessed should work together. Usually, this is all about linking alignment to content validity, coverage and opportunity to learn and it sums up the relationship between content validity in assessment, the degree to which a particular assessment measures what it is intended to measure and the extent to which proposed interpretations and uses are justified, content coverage and the opportunity to learn. In this view, alignment is not just vertical coherence between standards and tests, but also the totality of links across content, pedagogy and assessment that shape the student's learning experience. The core idea is that misalignment creates drift between policy and classroom reality. Okafor & Nnabueze (2022) described alignment as clarifying the relationship between what students experience in their course and what they are expected to learn. Without that clarity, teachers may deliver content that doesn't match the standards, and assessments may test things students were never given the opportunity to learn. In the words

of Ozuzu & Akpan (2023) curriculum alignment is a way to protect against the gap between curriculum design and classroom execution thereby reducing discrepancies between the intended process and the actual process.

In a more operational understanding, Curriculum alignment is the extent to which curricular expectations and assessments are in agreement and work together to provide guidance for educators' efforts to facilitate students' progress toward desired academic outcomes. That definition highlights two things: agreement between standards and assessment and the practical role of alignment in guiding teachers' day-to-day work. When these elements cohere, teachers have a shared reference point and students experience consistent expectations across classrooms and grades.

The practical value shows up in how curriculum alignment affects performance and teacher understanding. Kurz et al. (2010), along with Wenzel (2016), argued that when the gaps between intended curriculum, instruction and assessment are minimized, students' performance and achievement improve, and teachers gain a clearer picture of what students actually know and can do. Discovery Education's 2023 alignment guide reinforces this by stating that alignment means learning expectations, instructional practices and assessments are intentionally connected and that teachers have a common understanding of that connection. When that connection is strong, expectations are consistent, learning experiences become more equitable, and assessment data becomes more reliable for decision-making.

So the assertion running through these sources is straightforward, implying that curriculum alignment works when standards define what students should know and be able to do, instructional materials and activities are selected to support those expectations and assessments measure precisely what was taught. Without that alignment, you get variation in teacher expectations, uneven student experiences and unreliable achievement data. With it, the curriculum functions as a coherent system rather than a collection of isolated components.

Early Childhood Frameworks

Early Childhood Frameworks are structured sets of principles, learning outcomes and pedagogical guidelines that guide how young children from birth to about 8 years old are educated and cared for. They give educators, policymakers and parents a shared understanding of what quality early learning looks like. Research from the 1990s onward, including work by the OECD and UNESCO, showed that early childhood quality has long-term effects on learning outcomes and social equity. Frameworks translate that research into practice. They reduce variation between classrooms, give educators a common language and make it easier to assess and improve program quality. They also balance structure and flexibility. The core purpose is that they shift early childhood education away from ad-hoc care toward intentional learning. Instead of just keeping children safe and occupied, frameworks set clear expectations for children's development across domains like language, cognitive skills, social-emotional growth, physical development, and creative expression. The aim is to make sure learning experiences are age-appropriate, play-based and responsive to each child's background.

A strong framework doesn't prescribe a script for every minute. Instead, it sets the goals and principles, then trusts educators to adapt activities to local context, culture and the children in front of them.

In the words of Olalam & Eze (2023), Early childhood frameworks are formal statements of the principles, outcomes and pedagogical approaches that guide education and care for children from birth to around age eight. They emerged from the recognition that the early years are a distinct developmental period and that quality in this phase shapes later learning and wellbeing.

The idea that early experiences matter for lifelong development was given strong international framing in the 2000s. The OECD's 2006 report *Starting Strong II* asserted that early childhood education and care is more than preparation for school; it is about supporting the holistic development of the child. That stance pushed countries to move beyond custodial care models toward curricula that treat young children as capable learners from birth.

Early Childhood Frameworks in Nigeria

Early childhood frameworks in Nigeria are the policy and curriculum statements that guide what happens in pre-primary and early primary settings, covering roughly ages 3 to 8. They have evolved from ad hoc nursery programs in the 1980s and 1990s into a more structured system anchored in the National Policy on Education and the National Curriculum Framework for the Foundational Stage.

The Nigerian government first gave early childhood education formal recognition in the National Policy on Education 2004, which stated that early childhood education should effect a smooth transition from home to the school and prepare the child for primary education. The policy positioned pre-primary education as a distinct level, with objectives focused on socialization, language development and basic cognitive skills. That document became the reference point for curriculum development and teacher training standards, even though implementation was uneven across states.

The curriculum side was later consolidated in the Nigerian Early Childhood Care and Development Curriculum, developed by the Nigerian Educational Research and Development Council in 2013. NERDC described the curriculum as child-centered and activity-based, with the aim of fostering holistic development across physical, cognitive, language, social and emotional domains. It moved away from subject-based teaching at the pre-primary level and emphasized play, exploration, and guided interaction as the main pedagogical approaches. The 2013 document also stressed the role of caregivers and parents, arguing that the home and the school must work together to ensure continuity in the child's learning experience.

A more recent shift came with the National Curriculum Framework for the Foundational Stage 2022, released under the National Policy on Education revision and aligned with the broader 5+3+3+4 structure. The framework asserts that learning at the foundational stage must be experiential, play-based and responsive to the developmental needs of the child. It outlines learning outcomes across five domains and insists that assessment should be formative, using

observation and documentation rather than formal examinations. The 2022 framework also gave stronger recognition to mother tongue and Nigerian languages as media of instruction in the early years, echoing earlier research by Fafunwa, Macaulay & Sokoya (1989) on the Ile-Ife Primary Education Research Project, which demonstrated that children learn more effectively when initial literacy and numeracy are introduced in the mother tongue.

Scholars have commented on both the intent and the gaps. Bello (2024) argued that equalization of nursery education in Nigeria remains constrained by inadequate funding, teacher capacity and poor supervision, suggesting that even with a framework in place, quality depends on local implementation. Many scholars have noted that nursery education since independence has been largely private-sector driven, which explains why the national frameworks often lag behind what is happening in urban private schools while others similarly pointed out that pre-primary and primary education in Nigeria must be seen as a continuum and that disjointed planning between the two levels undermines the purpose of early learning.

The underlying assertion in these documents and studies is that early childhood frameworks in Nigeria are meant to standardize quality, protect children's rights to play and development and ensure continuity into primary education. The 2004 policy, the 2013 curriculum and the 2022 framework all stress that the child's holistic development should take precedence over rote academic preparation. As the 2022 framework puts it, the foundational stage is not a preparatory phase for primary school in the narrow sense, but a critical period for building the dispositions, skills and confidence that sustain lifelong learning.

Implementation still varies widely, but the direction in policy language since 2013 has been consistent move from a care-and-custody model to a developmental, play-based model that recognizes the child as an active learner.

Relationship between Curriculum Alignment and Early Childhood Frameworks In Nigeria

The relationship between curriculum alignment and early childhood frameworks in Nigeria is about making sure what children experience in pre-primary settings actually connects to what is expected of them when they enter primary school. Without that connection, the framework becomes isolated from the rest of the system and children face a break in learning at age 5 or 6.

The National Policy on Education 2004 first positioned pre-primary education as a distinct level with the purpose to effect a smooth transition from home to the school and prepare the child for primary education. It did not give detailed learning progressions, but it established the principle that early childhood should be linked to primary, not separate from it.

The Nigerian Early Childhood Care and Development Curriculum 2013, developed by NERDC, made that link more concrete. NERDC described the curriculum as child-centered and activity-based, with the aim of fostering holistic development across physical, cognitive, language, social and emotional domains. The document also stated that the home and the school

must work together to ensure continuity in the child's learning experience, directly addressing the need for alignment across settings.

The strongest statement comes from the National Curriculum Framework for the Foundational Stage 2022. It asserts that learning at the foundational stage must be experiential, play-based and responsive to the developmental needs of the child and it positions this stage as a continuum into primary education. The framework sets learning outcomes across five domains and insists that assessment should be formative, using observation and documentation. That approach aligns more closely with early childhood pedagogy than with traditional primary testing, and it creates a shared language for teachers across the transition. Their point was that curriculum documents alone do not create alignment; teachers need shared understanding of learning progressions.

When the early childhood framework and primary standards are aligned, three things happen. First, children experience continuity in pedagogy, so play and inquiry do not stop abruptly at school entry. The 2022 framework captures this by stating that the foundational stage is not a preparatory phase for primary school in the narrow sense, but a critical period for building the dispositions, skills, and confidence that sustain lifelong learning. Second, teachers develop a common reference point. If both pre-primary and Year 1 teachers understand that oral language and early literacy in the mother tongue are foundational, they can plan collaboratively rather than working in isolation. This reflects the principle in the 2013 curriculum that continuity depends on cooperation between home, pre-primary and primary levels. Third, assessment becomes more meaningful. In Nigeria's case, formative observation in pre-primary can inform baseline understanding in Year 1, instead of resetting with a test that ignores what children already do.

The policy language since 2013 has consistently pushed toward alignment, but implementation varies. Private urban schools often run closer to the framework's intent, while many public pre-primary classes lack materials, trained teachers, and time for observation-based assessment. That gap means the relationship between framework and alignment exists on paper more than in classrooms for many children.

Relationship between Curriculum Alignment and Primary Schools Standards In Nigeria

The relationship between curriculum alignment and primary school standards in Nigeria is about making sure what is taught in classrooms matches the learning outcomes set by NERDC and that each year builds on the last without gaps or duplication. When alignment is strong, the standards act as a coherent roadmap for teachers, learners, and assessment.

Before 2025, the NERDC curriculum for Primary 1-3 included English Studies, Mathematics, Nigerian Language, Basic Science & Technology, Religion & National Values, Cultural & Creative Arts, and optional Arabic. Teachers reported that the structure was too fragmented and difficult to manage, especially for children just starting school. That fragmentation created misalignment between the intended curriculum and what could be delivered in 35-40 minute lessons.

The New Nigerian Primary School Curriculum for Primary 1-3, 2025 simplified the structure. It now lists 10 areas: English Language, Mathematics, Basic Science and Technology, Cultural & Creative Arts, Religion and National Values, Social Studies and Civic Education, Nigerian Language, Basic Digital Literacy, Pre-Vocational Studies and optional Arabic. The goal, according to the update, was to reduce fragmentation and introduce subjects like Basic Digital Literacy that reflect current learning needs.

When standards are aligned, teachers have a clear sense of progression. For example, in English Language the 2025 curriculum focuses on reading and comprehension, writing simple sentences, correct spelling and grammar, listening and speaking skills at Primary 1-3 level. That sets an expectation that pupils should be able to read a short story and explain the moral lesson in their own words. If pre-primary foundations in oral language and phonics are aligned to this, Primary 1 teachers do not start from zero. Alignment of the primary standards to a common set of outcomes helps reduce that variation, but only if teachers across schools interpret and deliver the curriculum consistently. The NERDC, as the “Think-Tank of Nigerian Education and Development”, has the mandate to revise and align the curriculum. The 2025 update is an attempt to improve coherence by cutting down subject overload and adding relevant skills like digital literacy.

Theories

Piaget’s Theory of Cognitive Development

This study is anchored on the Piaget’s Theory of Cognitive Development. Piaget identifies distinct, sequential stages of cognitive development, with children transitioning from the preoperational stage (ages 2–7) to the concrete operational stage (ages 7–11). During early primary years, children think concretely, requiring hands-on experiences before abstract reasoning. Early childhood frameworks typically align with preoperational characteristics (symbolic play, intuitive thinking), while primary standards often assume concrete operational abilities (logical reasoning, conservation, reversibility). However, many children enter primary school still in the preoperational stage. When primary standards demand abstract strategic thinking (depth-of-knowledge Level 3) without concrete scaffolds, they violate Piagetian developmental principles. This study uses Piaget to identify where misalignment occurs at specific cognitive thresholds.

Methodology

This study is a descriptive survey research design on the effect of curriculum alignment on early childhood frameworks and primary school standards in Nigeria. This study was carried out in the selected public primary schools in the south-east zone of Nigeria. With 200 purposefully sampled respondents comprising of 100 teaching and non-teaching staff of the selected public schools. All the staff in the selected schools formed the population of the study out of which, 400 respondents were selected to represent the population and it comprised of 200 teaching and 200 non-teaching staff. The stratified random sampling technique was adopted in the selection to ensure adequate representation of each of the subgroups and this

was aimed at generating accurate and generalized findings on the effect of curriculum alignment on early childhood frameworks and primary school standards in Nigeria. The study formulated two specific objectives, two research questions and two hypotheses. The instrument for data collection was a researcher structured four-point Likert scale questionnaire titled; “Curriculum Alignment and Early Childhood frameworks in Nigeria” (CAECF) which was used to elicit information from the 400 respondents. The questionnaire was organized into three sections serving specific purposes within the context of the research objectives. The first section was dedicated to collect demographic information about the respondents. Section two comprised ten items designed in two clusters of five question items each to address the two specific objectives in this study. Each of these questions have four-point Likert scale response format of SA for strongly agree, A for Agree, D for Disagree and SD for strongly disagree. The face and content validity of the questionnaire was carried out by the expert judgement of three academic authorities; each from the departments of curriculum studies, educational administration and educational measurement and evaluation respectively who made inputs that were used to modify the questionnaire before administering to the respondents. To ensure the reliability of the instrument, it was first administered and pre-tested with 40 respondents who were not part of the study population, 20 respondents each from two purposefully selected private primary schools in the zone. The pilot study was aimed at assessing the consistency and stability of the responses. The reliability index was 0.84 using the Person Product Correlation coefficient formula (r). The Cronbach alpha was also adopted to reconfirm the internal consistency of the questionnaire which recorded a correlation coefficient value of 0.83. These two values indicated that the instrument is very reliable for use. The instrument was administered to the respondents and only 397 respondents completely filled the questionnaire and the data retrieved were used in the analysis. The mean and standard deviation analytical method was used in answering the two research questions while the hypotheses was tested using the z-test statistical tool at 0.05 level of significance. The decision rule for the stated that item that scored 2.5 and above were accepted to have agreed while below 2.5 signifies disagreement. The hypothesis is rejected when the z-calculated is greater than z-critical and vice versa.

Results and Analysis

The analyses in this study as they relate answering the research questions and testing the hypothesis were based on the various data derived from the respondents.

Research Question 1

What is the effect of curriculum alignment on early childhood frameworks in Nigeria?

Table 1: Mean and standard deviation on the ratings of teaching and non-teaching staff on the effect of curriculum alignment on early childhood frameworks in Nigeria

SN	ITEMS	X ₁	SD ₁	X ₂	SD ₂	DECISION
1	Improved learning outcomes	2.78	075	2.73	0.77	Agreed
2	Better teacher training alignment	2.60	0.89	2.64	0.81	Agreed
3	Easier monitoring and assessment	2.80	0.71	2.91	0.66	Agreed
4	Smoother transitions	2.64	0.81	2.67	079	Agreed
5	Consistency across states	2.54	0.93	2.59	0.91	Agreed
		2.67	0.82	2.71	0.79	

From the data in table 1, we discovered that the weighted mean scores of items 1 to 5 are greater than the criterion mean of 2.5. Based on the grand means of the two sets of staff which respectively stood at 2.67 and 2.71, it can be adjudged that curriculum alignment will have a profound impact on early childhood frameworks in Nigeria. This result can be attributed to the fact curriculum alignment has the potentials to revolutionise early childhood education system especially in the areas outline in the table. This is confirmed by the assertion of Hakeem & Ahmed (2021) that curriculum alignment has transformed the education sector by improving teaching, learning and administrative processes and bring the much desired achievement of the goals of education at all levels. Most people view Nigerian curriculum as obsolete and not relevant to the present institutional and environmental demands based on the realities on ground. This is one of the reasons Nigerian certificates may not be recognized or accepted in the western world hence this study will signify Nigerian government to adequately fund her education and enact corresponding reforms are relevant towards improving the system. In line with this, the findings in this study are strongly validated by the words of Obizue and Obizue (2025) which further credence that Nigeria are increasingly exploring curriculum re-engineering to enhance pedagogy for ultimate improvement in the quality of education and students' experiences and outcome have been impressive.

Testing of Hypothesis One

In testing the hypothesis, the grand mean and standard deviation values were extracted from tables 1 and 2 hence applied for this purpose in tables 3 and 4 below.

HO₁: There is no significant difference in the mean ratings of teaching and non-teaching staff of public primary schools on the effect of curriculum alignment on early childhood frameworks in Nigeria.

Table 3: Summary of z-test analysis on the mean ratings of teaching and non-teaching staff of public primary schools on the effect of curriculum alignment on early childhood frameworks in Nigeria.

Subjects	N=1520	Mean	SD	Df	z-cal	z-critical	Decision
Teaching Staff	300	2.67	0.82	597	1.92	1.96	accepted
Non-teaching Staff	300	2.71	0.79				

Table 3 showed the summaries of the means scores and standard deviations of the teaching and non-teaching staff and the z-test analysis. The means scores of the two sets of respondents are 2.67 and 2.71 respectively while their standard deviation stood at 0.82 and 0.79. The z-test calculated value stood at 1.92 while the z-critical value stood at 1.96 using 597 degree of freedom at 0.05 level of significance. Given this result, the z-calculated is lower than the z-critical which indicates that there is no significant difference between the mean ratings of teaching and non-teaching staff of public primary schools on the effect of curriculum alignment on early childhood frameworks in Nigeria. It therefore becomes proper to accept the null hypothesis which stated that there is no significant difference in the mean ratings of teaching and non-teaching staff of public primary schools on the effect of curriculum alignment on early childhood frameworks in Nigeria. Appropriately, the alternate hypothesis is affirmed.

Research Question 2

What is the relationship between curriculum alignment and primary school standards in Nigeria?

Table 2: Mean and standard deviation on the relationship between curriculum alignment and primary school standards in Nigeria

SN	ITEMS	X ₁	SD ₁	X ₂	SD ₂	DECISION
6	Uniform standards	2.91	0.66	2.78	0.75	Agreed
7	Stronger foundation skills	2.64	0.81	2.73	0.77	Agreed
8	Reduced learning gaps	2.60	0.89	2.65	0.80	Agreed
9	Easier assessment	2.67	0.79	2.73	0.77	Agreed

10	Improved accountability	2.73	0.77	2.80	0.71	Agreed
		2.71	0.78	2.74	0.76	

Table 2 shows the ways curriculum alignment relates with primary school standards in Nigeria. The analyzing of research question 2 indicated that the weighted mean scores of the various items in table 2 are higher than the criterion score of 2.5. Measuring by the responses of the teaching and non-teaching staff which recorded higher mean values than the 2,5 bench mark, they generally accepted that the items in table 2 are the ways curriculum alignment relates with primary school standards in Nigeria. This result is further validated by their grand mean values of 2.74 for the teaching staff and 2.68 for the non-academic staff which are also higher than 2.5 leading to the conclusion that curriculum alignment enhances the effectiveness in achieving the purposed primary schools standards.

Testing of Hypothesis Two

HO₂ There is no significant difference in the mean ratings of teaching and non-teaching staff of public primary schools on the relationship between curriculum alignment and primary school standards in Nigeria.

Table 4: Summary of z-test analysis on the mean ratings of teaching and non-teaching staff of public primary schools on the relationship between curriculum alignment and primary school standards in Nigeria.

Subjects	N=1520	Mean	SD	Df	z-cal	z-critical	Decision
Teaching Staff	300	2.71	0.78	597	1.90	1.96	accepted
Non-teaching Staff	300	2.74	0.76				

The data on table 2 showed the summaries of the scores, means, standard deviations and the z-test of difference between the mean responses of teaching and non-teaching staff of public primary schools in Nigeria on the relationship between curriculum alignment and primary school standards in Nigeria. The data revealed that the z-test calculated value stood at 1.90 while the z-critical showed a higher value of 1.96, hence the null hypothesis was accepted. This implies that both set of respondents share the same view on the items in research question two of the study hence the conclusion that there is no significant difference in the mean ratings of teaching and non-teaching staff of public primary schools on the relationship between curriculum alignment and primary school standards in Nigeria.

Conclusion

This study has examined the impact of AI-powered tools on the effectiveness of tertiary education in public tertiary institutions in Nigeria. The findings revealed that AI-powered tools have the potentials to enhance curriculum development, automate students' assessment and grading with accuracy, grant equal access to quality education and improve administrative processes through data-driven decision making. The study therefore concluded that AI-solutions are veritable approach to uplift the quality and standard of formal education in Nigeria.

Recommendations

The following recommendations were proffered in this study;

1. Establish joint review committees involving early childhood and primary education specialists to ensure learning goals, content and pedagogical approaches progress logically across levels
2. Development of assessment instruments to measure competencies consistently from early childhood through primary three to track progress and identify misalignment early
3. Use existing education management structures to audit resource use, classroom practice and adherence to the aligned curriculum and feed findings back into policy revisions

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