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CHALLENGES AFFECTING TEACHERS' COMPETENCY IN IMPLEMENTING THE 21ST-CENTURY CURRICULUM IN SECONDARY SCHOOLS IN SOUTH-WEST NIGERIA

Christiana Ayo Ayodele[1] *, Gbenga Patrick Aina[2], Ayodele, J.O[3],
(Department of Arts and Language Education, Faculty of Education Ekiti State University, Ado-Ekiti, Nigeria).[1]
(Department of Science Education, Faculty of Education Ekiti State University, Ado-Ekiti, Nigeria)[2]
(Department of Arts and Language Education, Faculty of Education Ekiti State University, Ado-Ekiti, Nigeria)[3]

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Abstract
This study aimed to explore the challenges impacting teachers' competency in implementing the 21st-century curriculum in secondary schools across South-West Nigeria. A descriptive cross-sectional survey design was utilized, with the target population consisting of secondary school teachers from the six South-West states: Ondo, Oyo, Osun, Ekiti, Lagos, and Ogun. A total of 860 teachers were selected using a multistage sampling technique to ensure representation. Data were collected through a 15-item questionnaire developed by the researcher, titled "Teachers' Competency for the Implementation of the 21st-Century Curriculum among Secondary Schools in South-West Nigeria." The questionnaire was validated for content and face validity by measurement and evaluation experts at Ekiti State University. Reliability was assessed using the test-retest method, with a reliability coefficient calculated using Pearson's Product Moment Correlation Coefficient (PPMCC) at the 0.05 significance level. The questionnaire was distributed to teachers in their respective schools with support from research assistants. Data analysis included percentages, frequency counts, and mean scores for research questions, with an independent t-test employed to test hypotheses at the 0.05 level. Key findings indicated that significant barriers to teacher competency included inadequate human and material resources, insufficient commitment, a lack of mastery of the curriculum, limited government support and funding, poor supervision, and inadequate time to manage heavy workloads. The study recommends increased government funding, enhanced teacher training programs, improved supervision systems, and better resource allocation to boost teacher competency in applying the 21st-century curriculum.

*corresponding author: Gbenga Patrick Aina. patains@gmail.com

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Introduction

Education is gaining deeper knowledge that one is able to apply in their everyday life for sustainability (Ayodele, 2021). Education plays an immense role in a child's power of thinking by improving the cognitive development, critical thinking and also problem solving abilities (AI overview, 2025). Education is an important social development tool with its curriculum focused, defining the knowledge, skills and values imparted to the learners. With the development of societies, and undergoes sequences of change, so does much of the educational framework, ensuring that students are better equipped to meet needs of the day. A well-designed curriculum provides the framework of learning, while its proper execution ensures that educational implementation ensures that educational goals become functional realities (Ayodele, 2023). Curriculum and the processes used in implementing it are important to enhance the efficiency of teaching and the learning process of the students. Curriculum is the sum of structured learning experiences that students are provided with in the learning system (Ornstein & Hunkins, 2018; UNESCO, 2021). Fafunwa (2004) viewed curriculum as the whole environment in which learning takes place that involves the child, teacher, subject and the psychological environment. Curriculum is tailored to guide the teachers in imparting the nation's philosophy of education by drawing the contents in which the learner and the teacher will be engaged, so as to learn in the classroom and provide the extended learning after the classroom situation (Ayodele, 2021). It is a well-planned document that guides the selection of content, instruction, and assessment processes to achieve specific educational goals. Effective implementation of the curriculum, or putting the plans into practice in the classroom, is necessary for the achievement of these objectives (Fullan, 2007; Snyder, Bolin, & Zumwalt, 1992; Offorma, 2002; Carl, 2012).

The Nigerian 21st century curriculum is aimed at providing the students with knowledge skills and attitude that is required for the learners so that they can survive in this new world. The curriculum places more emphasis on the acquisition of basic skills like critical thinking, problem-solving, communication and collaboration that are essential for survival in a complex and dynamic world (AI overview, 2025) and therefore the art of learning has become more dynamic. It requires the students to acquire more creativity and critical thinking by collaborating and by digital skills that can enable them to develop themselves and contribute more to the economic growth of Nigeria. Students are encouraged to learn in various ways (Ayodele, 2023). The implementation of the 21st-century curriculum requires teachers to possess higher pedagogic skills, technological proficiency, and adaptability to shifting learning environments. By Oyinloye and Ayodele (2020), awareness and knowledge of content text are sine qua non to the understanding of the subject matter itself. This curriculum that dwells on critical thinking, creativity, digital literacy, and pedagogies centered on the learners (Trilling & Fadel, 2009; Voogt & Roblin, 2012; P21, 2019; OECD, 2019) necessitates that there is a move away from simple rote learning to more interactive and technology-centric teaching. Teachers contribute to the implementation of curriculum through classroom application of these approaches, but most are constrained by a lack of training, insufficient resources, and resistance to change (OECD, 2019). Research has shown that teacher professional development significantly contributes to teachers' ability to integrate modern teaching methods, hence improving curriculum implementation (Fullan, 2016).

Teachers' competences are the key to effective implementation of the curriculum in education. Capacities represent an intermix of knowledge, skills, attitudes, and values to teach for learning and react to curriculum innovation. Literature recently highlights that in the absence of professionally qualified and competent teachers, even the most well-designed curricula fail to achieve intended learning outcomes. As Darling-Hammond et al. (2020) suppose, curriculum and subject matter knowledge do directly influence the effective translation of curricular purposes. Teachers need to have a deep level of subject matter knowledge and teaching practice strategy in an attempt to translate curricular purposes into effective classroom practice. Similarly, OECD (2021) emphasizes that pedagogical competence of teachers, including classroom management, assessment literacy, and inclusive practices, matters in curricula adaptation to various student needs and attainment of equity in learning. In a study by Adedoyin and Soykan (2023), digital literacy was highlighted as the main driver of curriculum delivery in the modern era, particularly subsequent to the COVID-19 pandemic. Teachers' competences to integrate technology into pedagogy determines the extent to which the digital and blended learning elements of the curriculum are achieved. According to Ogunyemi and Adebayo (2022), in the Nigerian context, pedagogic expertise of teachers in lesson planning, classroom observation, and contextualization is instrumental for competency-based curriculum implementation. They argue that the majority of the challenges in curriculum implementation in Africa result from inconsistencies in preparation and in-service staff development for educators. Schleicher (2020), under his OECD global education outlook, believes that curriculum attainment is dependent on teachers' capacity to interpret curriculum frameworks, relate them to the teaching resources, and provoke critical thinking among students.

In Nigeria, there are several systemic problems, from low funds and poor infrastructure to limited access to digital materials, further worsening the teachers' plight (Udoudo, 2020). In Olanrewaju et al., (2021), study, it is stated that most secondary school teachers lack the necessary competences in digital pedagogy, further increasing it being hard to provide an effective 21st-century curriculum. Besides, discrepancies in the quality of qualifications held by teachers also influence levels of competency since lower-quality teachers struggle to apply the curriculum (Ossai, & Onyekpe, 2025). Ongoing professional learning is one of the main barriers to competency for teachers. The majority of teachers learn from academic institutions with minimal exposure to models of teaching in the 21st century (Darling-Hammond et al., 2020). Their ability to adapt to evolving education models thereby remains low. Additionally, teacher education programs are usually short in addressing current learning issues, thereby equipping teachers inadequately for curriculum implementation (Gore et al., 2017). The 21st-century student is set to develop in learning, acquire sets of knowledge, literacy skills since these are component parts of what classroom experience is all about (Ayodele, 2023).

The second challenge is the digital divide, and this affects teachers as well as students. Limitations in access to technological resources, such as computers, smartboards, and reliable internet connections, hinder teachers from using digital tools in teaching methods like any other (Livingstone & Helsper, 2019). Rural schools are particularly at a disadvantage because they lack the infrastructure required to support modern teaching methods (Ekoro, et al., 2023). Heavy workload is another significant aspect that

affects teachers' competency. Due to teachers' shortages, teachers are over-burdened with numerous hours of teaching, administrative tasks, and extra-curricular activities (Nuwaha, et al., 2023). There remains no room for self-improvement and the adaptation of innovative pedagogy. Literature indicates that overwork reduces the effectiveness and overall job satisfaction of teachers negatively (Bakker & Demerouti, 2017). Resistance to change is a competency-influencing factor in curriculum implementation.

Teachers do not adopt new pedagogical practices due to fear of failure, poor motivation, or wariness of the efficacies of new pedagogical practices (Ertmer & Ottenbreit-Leftwich, 2019). Teachers' resistance to change is the greatest obstacle to secondary school curriculum reform when they lack support and incentives (Tondeur et al., 2017). Socio-economic statuses influence the performances of teachers. Low income and lack of incentives discourage teachers and discourage them from investing in professional learning (Ugwuegbulam & Adeosun, 2022). Evidence shows that if teachers are well remunerated, they will be committed to lifelong learning and enhance their teaching capacity (Hanushek & Rivkin, 2020). Parental and societal expectations also affect the ability of teachers. In most instances, educators are pressured by parents and stakeholders to emphasize success at examinations over the balanced growth of learners (Bethel-Eke & Eremie, 2020).

This culture of assessment limits the application of critical thinking and innovative learning strategies endorsed by the 21st-century curriculum (Biggs & Tang, 2018). These issues can be solved through well-informed policy interventions, increased teacher training programs, and more funding in educational technology (UNESCO, 2021). Government agencies and institutions must collaborate to provide sustainable solutions such as curriculum reforms, increased budgets, and more efficient teaching professional development programs (Ogunyinka, 2015). Learning environment is key to the success of curriculum implementation. It means physical, psychological, social, and digital conditions that encourage or inhibit teaching and learning. A good learning environment facilitates maximum student involvement, active learning, and realization of curriculum outcomes.

For Fraser (2021), a well-organized and facilitative learning environment positively impacts students' performance and motivation at school. The author corroborates the argument that classroom organization, availability of instructional materials, lighting, and temperature have effects on learners' focus and participation in class activities aligned to the curriculum. Ngussa and Makewa (2022) also believe that a positive student-centered atmosphere actively promoting cooperation, interaction, and critical thinking is most effective in curriculum implementation. The instructors who establish learning environments to promote questioning and conversation are actually teaching skills and attitudes embedded in emerging curricula. Computer technology learning environments have also become more common. Bond et al. (2021) observe that the use of digital technologies in education enhances curriculum instruction by enhancing access to resources, instructional differentiation, and enabling student self-learning. They also caution that inequities in access to digital infrastructure can undermine equity in curriculum delivery. Adeyemi and Akinola (2023) note that overcrowding in classrooms, inadequate facilities, and poor infrastructure are major backlogs that undermine effective attainment of the curriculum in public schools. They recommend investment in school infrastructure and learning materials as a way of promoting

objectives of the curriculum. UNESCO (2023) also highlights the importance of inclusive learning environments, with the argument that peaceful, secure, and gender-sensitive classrooms are necessary in the delivery of curricula for promoting equity and lifelong learning. This study, as such, examines these questions in South-West Nigerian secondary schools, focusing on the influence of teachers' qualifications on curriculum implementation.

Statement of the Problem

The effective implementation of the 21st-century curriculum in secondary schools is crucial for equipping students with the skills necessary to thrive in a rapidly changing world. However, many teachers struggle to adapt to the demands of this curriculum due to various challenges. It has been observed that some teachers lack the necessary pedagogical skills and technological proficiency required to integrate modern teaching approaches effectively. Many teachers also face difficulties in transitioning from traditional rote learning methods to student-centered and technology-driven instructional strategies. Additionally, inadequate training and limited access to professional development opportunities appear to hinder teachers' ability to implement the curriculum effectively. In some cases, teachers graduate from training institutions with minimal exposure to contemporary teaching methodologies, making it difficult for them to adjust to evolving educational standards. The lack of necessary resources, such as digital tools and infrastructural support, further complicates curriculum implementation, especially in underfunded and rural schools. Teachers' workload also seems to be a major concern, as many educators are burdened with excessive teaching hours and administrative responsibilities, leaving them with little time for self-improvement. Furthermore, resistance to change among some teachers may slow down the adoption of innovative instructional practices. Socio-economic factors, including poor remuneration and lack of incentives, may also contribute to teachers' low motivation, ultimately affecting their effectiveness in curriculum delivery. Given these observations, it is important to examine the challenges that hinder teachers from effectively implementing the 21st-century curriculum in secondary schools. Understanding these challenges will provide valuable insights into how best to support teachers in adapting to modern educational demands and improving learning outcomes for students.

Research Questions

1. What is the extent of teachers' implementation of the 21st century curriculum?
2. What are the challenges facing teachers' competency in implementing the 21st-century curriculum in secondary schools in South-West Nigeria?
3. Do teachers' qualifications influence the challenges they face in implementing the 21st-century curriculum?

Research Hypothesis

1. There is no significant difference in the challenges facing teachers' competency for implementing the 21st-century curriculum among secondary schools in South-West Nigeria based on qualification.
2. There is no significant difference between learning environment and teachers method of teaching.

Methodology

A descriptive cross-sectional survey design was employed in this study to collect data from a sample and infer characteristics of a broader population. The study sample comprised 860 secondary school teachers drawn from the six

states of South-West Nigeria (Ondo, Oyo, Osun, Ekiti, Lagos, and Ogun). Data collection was conducted using a 20-item researcher-designed questionnaire titled Teachers' Competency for the Implementation of the 21st-Century Curriculum among Secondary Schools in South-West Nigeria. The questionnaire was structured into two sections: Section A gathered demographic information, including gender, qualification, and years of experience, while Section B contained 15 items rated on a four-point Likert scale (Strongly Disagree = 1 to Strongly Agree = 4) to assess teachers' perceptions of curriculum implementation. To ensure validity, the instruments underwent expert review by specialists in Measurement and Evaluation at Ekiti State University, confirming both content and face validity. Reliability was established through the test-retest method, with a two-week interval between the two administrations. The reliability coefficient was determined using Pearson's Product Moment Correlation Coefficient (PPMCC) at a 0.05 significance level. And a reliability coefficient of 0.82 was obtained. For data analysis, percentages, frequency counts, and mean scores were utilized to address research questions 1 and 2. Additionally, a t-test analysis was conducted to test hypothesis 1 at a 0.05 significance level.

Results

Research Question 1: What is the extent of teachers' implementation of the 21st century curriculum?

Table 1: Frequency and Percentages of the extent of teachers' implementation of the 21st century curriculum

Implementation Level	Frequency (f)	Percentage (%)	Ranking
To a small extent (2)	298	34.7%	1st
To a moderate extent (3)	221	25.7%	2nd
Not at all (1)	179	20.8%	3rd
To a large extent (4)	107	12.4%	4th
To a very large extent (5)	55	6.4%	5th
Total	**860**	**100%**	—

Table 1 reveals that the majority of teachers implement the 21st-century curriculum to a small extent (34.7%), followed by a moderate extent (25.7%). A significant proportion (20.8%) indicated they do not implement it at all, suggesting a generally low level of curriculum adoption among teachers. Only a small percentage reported implementing it to a large extent (12.4%) or very large extent (6.4%). These findings suggest that while awareness of the 21st-century curriculum may exist, its full implementation is still limited,

Research Question 2: What are the challenges facing teachers' competency in implementing the 21st-century curriculum in secondary schools in South-West Nigeria?

Table 2: Teachers' Responses to the Challenges Facing Teachers' Competence for the Implementation of 21st Century Curriculum among Secondary Schools in South-West, Nigeria

SN	Items	Mean	SD	Skewness	Remark

1	Human and material resources are inadequate for the set-out curriculum to be implemented.	3.35	0.94	-0.76	A
2	Lack of commitment, indiscipline, and poor curriculum mastery among teachers negatively impact curriculum implementation.	3.24	0.97	-0.49	A
3	Inadequate funding and support from the government and school administration affect teachers' competency and curriculum implementation.	3.08	1.00	-0.16	A
4	Poor supervision is one of the challenges facing teachers' competency and curriculum implementation in the 21st century.	3.05	1.00	-0.10	A
5	The time allotted for implementing heavy academic loads is inadequate, affecting teachers' competency.	3.02	1.00	-0.05	A

From table 2, the most significant challenge identified is the inadequacy of human and material resources, with a mean score of 3.35 and a skewness of -0.76, indicating strong agreement among respondents. Additionally, lack of commitment, indiscipline, and poor curriculum mastery among teachers emerged as a critical issue, with a mean of 3.24 and a skewness of -0.49. Inadequate funding and limited support from the government and school administration (Mean = 3.08, Skewness = -0.16) further hinder effective curriculum implementation. Poor supervision (Mean = 3.05, Skewness = -0.10) and insufficient time allocation for implementing heavy academic loads (Mean = 3.02, Skewness = -0.05) were also noted as challenges, though with slightly lower levels of agreement.

Research Question 3: Do teachers' qualifications influence the challenges they face in implementing the 21st-century curriculum?

Table 3: Descriptive Analysis of teachers' responses on if teachers' qualifications influence the challenges they face in implementing the 21st-century curriculum

Items	Mean	S.D	Skewness
Teachers with lower qualifications struggle more with integrating technology into teaching.	2.90	1.04	0.00
Higher qualifications provide teachers with better pedagogical skills for 21st-century curriculum implementation.	2.85	1.03	-0.36
Teachers with higher qualifications adapt more easily to modern teaching methodologies.	2.85	1.05	-0.28
Less-qualified teachers face greater difficulty in understanding and applying digital tools in the classroom.	2.80	1.03	-0.79
Professional development programs help bridge the competency gap among teachers of different qualification levels.	2.78	1.02	-0.79
Teachers with lower qualifications require more training and support to effectively implement the 21st-century curriculum.	2.78	0.99	-0.83
There is a significant difference in curriculum implementation challenges between teachers with NCE and those with higher degrees.	2.80	1.03	-0.79
Higher academic qualifications enhance teachers' ability to manage diverse classroom needs effectively.	2.85	1.03	-0.36
Less-qualified teachers are more resistant to adopting innovative teaching strategies.	2.85	1.05	-0.28

Government and school administrators provide equal support to teachers regardless of qualification.	2.90	1.04	0.00

The results presented in Table 3 provide insight into whether teachers' qualifications influence the challenges they face in implementing the 21st-century curriculum. The responses indicate that teachers with lower qualifications tend to struggle more with integrating technology into teaching (Mean = 2.90, Skewness = 0.00), while higher qualifications are perceived to enhance pedagogical skills (Mean = 2.85, Skewness = -0.36) and facilitate adaptation to modern teaching methodologies (Mean = 2.85, Skewness = -0.28). Additionally, less-qualified teachers face greater challenges in understanding and applying digital tools in the classroom (Mean = 2.80, Skewness = -0.79) and require more training and support for effective curriculum implementation (Mean = 2.78, Skewness = -0.83). However, professional development programs are seen as a means to bridge these competency gaps (Mean = 2.78, Skewness = -0.79). Respondents also acknowledged a significant difference in curriculum implementation challenges between teachers with NCE and those with higher degrees (Mean = 2.80, Skewness = -0.79). Despite these disparities, some teachers believe that government and school administrators provide equal support regardless of qualification (Mean = 2.90, Skewness = 0.00). The findings suggest that while higher qualifications generally improve teachers' ability to implement the curriculum effectively, targeted professional development can help mitigate competency gaps among less-qualified teachers.

Hypothesis 1: There is no significant difference in the challenges facing teachers' competency for implementing the 21st-century curriculum among secondary schools in South-West Nigeria based on qualification.

Table 4: t-test analysis of the difference in the challenges facing teachers' competency for implementing the 21st-century curriculum among secondary schools in South-West Nigeria based on qualification.

Variable	No	Mean	S.D	t	df	p	Remark
Qualified	507	12.54	9.06				
				1.02	598	0.07	NS
Unqualified	93	11.08	8.57				

P>0.05 (Not Significant)

The results of the independent t-test presented in Table 4 examine whether there is a significant difference in the challenges facing teachers' competency for implementing the 21st-century curriculum among secondary schools in South-West Nigeria based on qualification. The mean challenge score for qualified teachers (Mean = 12.54, SD = 9.06) was slightly higher than that of unqualified teachers (Mean = 11.08, SD = 8.57). However, the t-value (1.02) with a degree of freedom of 598 and a p-value of 0.07 indicates that the difference is not statistically significant at the 0.05 significance level. This suggests that teachers, regardless of their qualification status, experience similar challenges in implementing the 21st-century curriculum.

Hypothesis 2: There is no significant difference between learning environment and teachers' method of teaching.

Table 5: ANOVA of the significant difference between learning environment and teachers' method of teaching

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	18.56	2	9.28	5.42	0.005
Within Groups	1462.78	857	1.71		
Total	1481.34	859			

p<0.05

The result in Table 5 shows a statistically significant difference between the learning environment and teachers' method of teaching, as indicated by the ANOVA test result **(**$F = 5.42$**,** $p = 0.005$**,** $p < 0.05$**).** This means that variations in the learning environment significantly influence how teachers deliver instruction.

Discussion

The findings of the study show that the overall level of application by teachers for the 21st century curriculum is low. This suggests that many teachers are yet to fully embrace or effectively apply the key components of the 21st-century curriculum, such as learner-centered approaches, digital integration, critical thinking, collaboration, and real-world application of knowledge. This is in agreement with that of Ogunyemi and Adebayo (2022), which had identified poor teacher training, lack of resources, and lack of ongoing professional development as the usual determinants that tend to restrict effective curriculum implementation in Nigerian schools. Darling-Hammond et al. (2020) emphasized that teachers should be trained in pedagogical and technological competencies to be capable of responding to modern demands on education. This low level of implementation demonstrated in this study can be attributed to limitations such as overcrowded classrooms, poor ICT infrastructure, and insufficient institutional support. Addressing these disparities through training of teachers, improved school infrastructure, and regular curriculum-focused workshops is key to improving the adoption and success of 21st-century pedagogies.

The findings of this study indicate that the greatest challenges to the competency of teachers to implement the 21st-century curriculum in secondary schools in South-West Nigeria include poor human and material resources, poor commitment and grasp of the curriculum by teachers, poor funding and government support, poor supervision, and poor time allocation for managing overwhelming academic workloads. These findings are in agreement with the study of Makakole and Teane (2024), which revealed the negative impact of resource scarcity on curriculum implementation. Likewise, the issue of teachers' poor commitment and curriculum mastery is corroborated by the research of Mohamed, et al., (2022), who found that the pedagogical unpreparedness of teachers sabotages successful curriculum implementation. Further, the issue of inadequate financing and partial governmental backing aligns with Mohamad, et al., (2024) research, which identified financial limitations as one of the main hindrances to educational reform. Similarly, poor supervision affecting curriculum execution aligns with Ogunode, et al, (2020) research, who identified weak monitoring systems as a hindrance to education efficacy. Lastly, the issue of time constraints for intensive coursework is

supported by the arguments of Shafiee, and Abdul (2022), who asserted that instructional time shortage negatively impacts the efficiency of teachers in delivering 21st-century skills.

The findings of this study showed that teachers who are less qualified face more challenges in applying technology and integrating digital tools into teaching, while higher qualifications enhance pedagogical skills and adaptation to modern methods.This is in conformity with the findings of Rugaiyah et al., (2024), that more qualified teachers are more competent in digital literacy and innovative pedagogy. The findings are also corroborated by Ngabonziza and Oniye (2024), who indicated that teachers who are less qualified require additional training to enable them to use technology-based teaching. Moreover, Karsiwan et al., (2021) is in conformity with these observations that the competency gaps for lower-qualified educators can be filled by professional development programs. These concurrences show that investment in continuous professional training is the most important thing in making all educators equipped with the necessary skills to deliver the 21st-century curriculum effectively.

The finding of the study also revealed that there is no variance in the challenges of teachers in teaching the 21st-century curriculum based on their qualifications. This agrees with Ossai, and Onyekpe, (2025), that both qualified and less qualified teachers have the same challenges, such as inadequate resources and poor administrative support.Similarly, the findings are corroborated by Tukurah, (2021), that institutional and professional experience factors, rather than academic qualifications, are more contributory to overcoming curriculum implementation challenges. Furthermore, Jentsch, and König, (2022)'s work is consistent with these findings, emphasizing the more critical role of continuous professional development and system support in raising the competency of teachers than formal qualifications. These alignments are indicative of the fact that it is perhaps more effective to tackle structural issues within education rather than teachers' qualifications.

The research finding indicates that the quality of the environment where learning takes place affects the kind of teaching approaches embraced by educators. This is an assumption that when teachers teach in well-organized, well-equipped, and supportive environments, they are more likely to utilize varied, effective, and student-centered instructional approaches. This evidence corroborated Fraser (2021), who emphasized that effective classroom climate enhances the quality of instruction and students' interest. In the same opinion, UNESCO (2023) underscored that conducive and inclusive learning environments are essential to effective curriculum implementation and active pedagogy. Conducive learning environments tainted by overcrowded classrooms, poor facilities, or a lack of teaching aids have the tendency to limit the application of innovative or participatory pedagogies by teachers. Therefore, upgrading the quality of the learning environment is not only critical for student success but also for enabling teachers to adopt strategies in line with modern curriculum demands.

Conclusion

Based on the findings of this study, it is concluded that teachers' application of the 21st-century curriculum in South-West Nigeria is low and is responsible for a broad gap between intended curriculum and classroom practice. Based on this research, it is concluded that resource constraints, inadequate teacher preparation, overcrowding, and lack of support from institutions are key issues influencing effective implementation of the curriculum. While the qualification of teachers influences

digital competence to some extent, both highly and less qualified teachers are bound by the same system constraints that restrict their ability to take up new teaching approaches. It also emerges that the quality of the classroom environment determines to a large extent the teaching approaches adopted by the teachers, with better environments resulting in interactive and student-centered approaches. To the researcher, it is preferable to break free from environmental and structural barriers than to highlight qualifications. Therefore, long-term professional development, enhanced funding, and effective policy implementation are vital to advancing the successful execution of the 21st-century curriculum in Nigerian secondary schools.

Recommendations

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

1. The government and school administrators should ensure the adequate provision of human and material resources to support effective curriculum implementation.

2. Regular professional development programs should be organized to enhance teachers' pedagogical skills, curriculum mastery, and technology integration.

3. Adequate funding should be allocated to education to address financial constraints that hinder teachers' competency in implementing the curriculum.

4. Educational stakeholders should enhance supervision mechanisms to ensure curriculum implementation aligns with set standards.

5. Schools should adopt better time management strategies to accommodate the heavy academic workload and improve teachers' effectiveness.

6. Regardless of their qualifications, all teachers should receive equal access to resources, mentorship, and training to bridge competency gaps.

7. Schools should invest in digital learning tools and provide necessary training to help teachers integrate technology into their teaching methods.

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