RedFame

Journal of Education and Training Studies
Vol. 14, No. 2; April 2026
ISSN 2324-805X E-ISSN 2324-8068
Published by Redfame Publishing
URL: http://jets.redfame.com

Evaluation of the Postgraduate Diploma in Education Programme of National Teachers Institute in Akwa Ibom State, Nigeria

Valentine Joseph Owan[1,2], Anyanya Archibong Ikono[1], Stephen Bepeh Undie[2,3], Adams Omokaro Ekwevugbe[4], Onyekwelu Raphael Azubuike[5], Constance Aniyom Dien[1], Vera Mpuon Obibessong[6], Mary Oshama Ebuara[7], Gloria Ukongkwen Ikongshul[8]

[1]Department of Educational Psychology, University of Calabar, Calabar, Nigeria

[2]Ultimate Research Network (URN), Calabar, Cross River State, Nigeria

[3]Department of Vocational Education, University of Calabar, Calabar, Nigeria

[4]Department of Educational Management and Foundations, Delta State University, Abraka, Nigeria

[5]Department of Educational Foundations, Chukwuemeka Odumegwu Ojukwu University, Igbariam, Nigeria

[6]Department of Continuing Education, University of Calabar, Calabar, Nigeria

[7]Department of Guidance and Counselling, University of Calabar, Calabar, Nigeria

[8]Department of Curriculum and Teaching, University of Calabar, Calabar, Nigeria

Correspondence: Valentine Joseph Owan, University of Calabar, PMB 115, Etta Agbor, Calabar, Nigeria.

Received: November 11, 2025 Accepted: December 23, 2025 Online Published: January 3, 2026

doi:10.11114/jets.v14i2.8351 URL: https://doi.org/10.11114/jets.v14i2.8351

Abstract

Graduates of distance education institutions (DEIs) often face limited social and economic opportunities, yet there is no evidence that DEI programmes are of lower academic quality than those of conventional universities. This study is an evaluation of the Postgraduate Diploma in Education (PGDE) programme of the National Teachers' Institute (NTI) in three study centres in Akwa Ibom State, Nigeria. This is a census study of all 402 enrolled students, who responded to a 30-item achievement test and participated in a direct observation of teaching practice, assessed with a standard rubric. Secondary data were obtained from the National Minimum Benchmark for PGDE programmes and a checklist of physical facilities and equipment. Data were analysed using frequency counts, percentages, means, and standard deviations. Findings showed that students had a weak understanding of the philosophical and psychological foundations of education, though their knowledge of the sociological foundations was strong. Even though the academic staff met the minimum qualification requirements, the pedagogical skills of NTI students was low, and physical facilities were below the national benchmark. Overall, the programme in Akwa Ibom State did not fully align with national standards. These shortcomings in implementation of the programme may hinder the attainment of the PGDE objectives. Therefore, strengthening instruction in the philosophical and psychological foundations of education, enhancing pedagogical skills, and improving physical facilities are necessary steps for improving the quality of the programme.

Keywords: higher education, policy implementation, practical skills, school facilities, teacher education

1. Introduction

Producing well-qualified and capable teachers remain a central concern for educational planners, administrators, and government in Nigeria. This concern stems from the need to empower learners for active participation in national development (Odigwe et al., 2018; Owan, Duruamaku-Dim et al., 2022; Owan, Ekpenyong et al., 2023). In 1976, the Federal Government enacted Act No. 7 to establish the National Teachers Institute (NTI). The institute was mandated to design and run programmes for the training, upgrading, and certification of teachers through distance education techniques (NTI, 2005). Since inception, NTI has implemented a wide-range of programmes, including refresher courses for teachers at all levels, retraining and upgrading primary school teachers, and offering courses leading to the award of Nigeria Certificate in Education (NCE). Over time, the scope has expanded to include the Postgraduate Diploma in Education (PGDE), Bachelor of Education degree, Advanced Diploma in Education (ADE), and Pivotal Teachers Training Programme (PTTP).

The overall aim of NTI is to improve the quality and supply of teachers in Nigeria. Research evidence suggests that NTI programmes have helped participants to upgrade their skills and knowledge (Alade, 2020). However, public perception of NTI graduates has often been negative. Anecdotal evidence shows that NTI graduates are frequently denied the same employment and admission opportunities as graduates of conventional universities. For instance, the Akwa Ibom State teacher recruitment advert of 2021 openly excluded applicants from distance education institutions, including NTI, from applying without explanation. Studies suggest that such exclusions is based on the perception that NTI products are of inferior quality compared to those from conventional institutions (Demir & Demir, 2021; Owan, Chuktu et al., 2023). Similar experiences have been reported where NTI graduates were denied admission into undergraduate and postgraduate programmes in conventional universities, even when they have met the basic entry requirements, with their only offense being that they were certified by NTI. This trend has raised concerns about the level of satisfaction among students pursuing distance education (Gavrilis et al., 2020).

The challenge was further complicated in 2016 with the introduction of the N-Power initiative, which created pathways for non-education graduates (in fields such as medicine, law, economics, engineering, and accounting) to enter the teaching profession (Owan, 2018). While this intervention addressed teacher shortages, it also brought many untrained personnel into schools, reducing teaching quality (Allais, 2022; Rintala & Nokelainen, 2020). Scholars have argued that effective teaching depends on professionally trained and skilled teachers (Gudmundsdottir & Hatlevik, 2018). In this regard, the PGDE programme plays an important role by serving as a conversion course for graduates from non-education disciplines, to equip themselves with professional knowledge, pedagogical skills, and classroom competence for effective teaching (Rodolico & Hirsu, 2023).

The NTI introduced the PGDE in 2005, in affiliation with the National Open University of Nigeria (NOUN). It is delivered through distance learning and lasts between six months and two years (usually two to three semesters). The programme blends theory with practical application, and prepares participants not only for teaching and leadership roles but also for further studies at the postgraduate level (National Teachers Institute, 2015). NTI remains the only institution in Nigeria running a one-year PGDE entirely through distance learning, giving participants the flexibility to work and study simultaneously.

Despite these benefits, there are questions about the quality of training in the PGDE programme of NTI. Some Nigerians doubt the ability of distance institutions to adequately prepare teachers for instructional roles. Concerns range from the limited contact between students and tutors to inadequate access to teaching facilities (Odigwe et al., 2018; Owan, Emanghe et al., 2022). However, there is little empirical evidence to suggest that NTI graduates are of lower quality compared to their counterparts from conventional higher education institutions or that the programme is below national standards. To address this gap, the present study was designed to evaluate the Postgraduate Diploma in Education programme of NTI in Akwa Ibom State, Nigeria. The specific research questions were:

1. To what extent do NTI PGDE students possess an adequate understanding of the philosophical, psychological, and sociological foundations of education?
2. To what extent have PGDE students in the NTI programme acquired the requisite pedagogical skills for teaching?
3. To what extent do PGDE students possess practical teaching skills?
4. How adequate is the strength of the available academic staff for implementing the PGDE programme of NTI in terms of number and qualification?
5. How does the standard of the course content of the NTI PGDE programme conform to the national minimum benchmark?

2. Literature Review

2.1 Philosophical, Psychological, and Sociological Foundations of Education

Educational philosophy equips teachers with the intellectual resources to make reasoned judgements and to weigh competing ideas. It draws from related fields such as science, history, law, and mathematics to broaden teachers' outlook and prepare them for classroom challenges (Dutilh, 2022; Saeverot, 2021). Educational psychology complements this by helping teachers understand learners' growth stages, learning processes, and the roles of heredity and environment (Duchesne & McMaugh, 2018; Saracho, 2023; Teräs et al., 2020). The sociology of education situates education as a social practice influenced by institutions and relationships, guiding teachers to design strategies that account for wider social forces (Ballantine et al., 2021; Delamont, 2017; Lingard & Thompson, 2017). Although these foundations are widely regarded as essential, there is little evidence of how distance learners, such as those in the NTI PGDE programme, acquire and apply this knowledge. This calls for empirical investigation.

2.2 PGDE Programme and the Acquisition of Pedagogical Skills for Teaching

Recent work has paid attention to teachers' content knowledge (TCK) and pedagogical knowledge (TPK). Both are recognised as central to student learning outcomes (Hanaysha et al., 2023; Luo et al., 2023; Undie et al., 2023). Effective teaching requires mastery of subject matter alongside the skills to convey it, as each contributes significantly to performance in the classroom (Gess-Newsome et al., 2019; Probine, 2023). Teachers who have strong subject knowledge teach more confidently and effectively, which in turn improves student achievement (Bassey et al., 2019; Jääskä & Aaltonen, 2022; König et al., 2021). Yet findings on the role of TPK are less consistent, especially across different educational settings (Odumosu et al., 2018). The question of how distance learners develop TCK and TPK has not received much scholarly attention. Although the PGDE programme is intended to strengthen both subject and pedagogical competence, there is little evidence on the extent to which NTI students attain these skills. This gap calls for closer inquiry into their readiness for classroom teaching.

2.3 Availability and Adequacy of Qualified Academic Staff

The quality of teachers is closely linked to student achievement. Certification through professional bodies such as the Teachers Registration Council of Nigeria (TRCN) helps to maintain competence standards (Donitsa-Schmidt & Ramot, 2020; Gudmundsdottir & Hatlevik, 2018; TRCN, 2010). In fact, previous research has linked certified teachers to improved learning outcomes (Bakar, 2018). However, shortages of qualified staff remain a major challenge in Nigeria's higher education system, particularly in distance education (Jacob & Garba, 2021; Oluwaseun, 2016). While much of the literature focuses on universities and the National Open University, there is limited evidence on staff adequacy within NTI and its PGDE programme. Staff quality and sufficiency remain critical issues in NTI, yet they are under-researched. Thus, examining this issue is vital for understanding the strength of the PGDE programme.

2.4 Standard of Course Content

Curriculum standards guide the skills and knowledge students are expected to gain and serve as benchmarks for assessing teaching (Owan et al., 2021; Vanermen et al., 2022). A sound curriculum should promote intellectual growth and moral development while responding to social needs (Falloon, 2020; Hermino & Arifin, 2020). In Nigeria, poor coordination between curriculum design and practice has weakened the impact of educational programmes (Oyigbo et al., 2021). While many studies have looked at curriculum issues in secondary and higher education (Arop et al., 2019; Owan, 2018; Probine, 2023), much of this work concerns face-to-face settings. The extent to which distance programmes (such as NTI's PGDE) meet national minimum standards remains unclear. Research has not established whether NTI's PGDE curriculum aligns with prescribed benchmarks. Therefore, studying this matter will reveal how well the programme delivers quality teacher education.

In summary, the literature reviewed points to four pressing issues. First, the acquisition of philosophical, psychological, and sociological foundations among distance learners is not well understood. Second, there is limited knowledge on how PGDE students develop subject and pedagogical skills. Third, the adequacy of qualified academic staff in NTI remains uncertain. Fourth, evidence on whether the PGDE curriculum aligns with national standards is lacking. These concerns justify the need for the present study, which is aimed at investigating the adequacy of staff, course content, and students' acquisition of foundational and pedagogical knowledge in NTI study centres in Akwa Ibom State.

3. Method

The researchers employed a descriptive evaluative survey design in this study. The choice of this design was informed by the aim to systematically describe and evaluate the extent to which Postgraduate Diploma in Education (PGDE) students had acquired foundational knowledge and practical pedagogical skills. Descriptive designs are useful for providing a snapshot of current conditions, while the evaluative component allows for comparison against established benchmarks (Cohen et al., 2008).

3.1 Participants

The study population comprised all 402 PGDE students enrolled across the Uyo (N = 262), Ikono (N = 71), and Eket (N = 69) study centres of the National Teachers' Institute (NTI) in Akwa Ibom State. Because the population size was manageable, a census approach was adopted to ensure complete coverage, eliminating sampling error and enhancing representativeness.

3.2 Instrument and Measures

Data were obtained from both primary and secondary sources:

- Achievement Test: A 30-item multiple-choice test was developed to assess students' knowledge of the philosophical, psychological, and sociological foundations of education. Each domain was represented by 10 items adapted from the Foundations of Education Comprehensive Examination used at the NTI. Items were reviewed by two psychometricians and two subject specialists to ensure clarity, relevance, and alignment with the National

Universities Commission (NUC) benchmark. The test was administered under standardized conditions with a 45-minute time limit, and ethical guidelines regarding consent and confidentiality were observed.

- Teaching Practice Assessment Rubric: Standardised NTI rubrics were used to evaluate teaching performance. The rubric covered classroom management, communication, lesson preparation and delivery, assessment of learning, and professional conduct. Each domain was rated on a 0–4 scale, where 0 indicated 'Not Demonstrated' and 4 indicated 'Excellent Performance.' The rubric was obtained from NTI and is the standardized instrument used to grade students during teaching practice. Supervising lecturers conducted the evaluations in real classroom settings, and inter-rater reliability checks ensured consistency of scoring. Scores were used both summatively for grading and formatively to provide feedback to student teachers.
- Observation Checklist: Direct classroom observations took place during teaching practice sessions. Each student was observed on at least two separate occasions by two independent raters. The checklist concentrated on whether specific teaching behaviours were present, such as the use of instructional aids, questioning techniques, student engagement strategies, time management, and adherence to lesson plans. Observers recorded each behaviour as present or absent and added qualitative notes to provide further detail. This descriptive approach complemented the rubric, which assigned evaluative scores on a 0–4 scale. Inter-rater reliability was calculated at 0.81, confirming acceptable consistency. The checklist therefore served as a diagnostic tool that enriched the assessment of teaching practice by identifying observable behaviours, while the rubric provided graded evaluation of performance.
- Document Review: Secondary data comprised the NTI National Minimum Benchmark for PGDE course content and institutional records on facilities, equipment, and staffing strength. These documents were examined against national standards using a checklist. The review assessed the adequacy of physical infrastructure, availability of instructional resources, and qualifications of academic staff. Records were verified with official NTI documentation to ensure accuracy. The checklist provided categorical judgements such as adequate or inadequate and available or unavailable, which enabled systematic appraisal of institutional capacity and programme content in relation to the National Universities Commission benchmark.

3.3 Validity and Reliability

Face and content validity of the instruments were established through expert review and alignment with the NTI/NUC benchmarks. Reliability of the achievement test was evaluated using the test–retest method. Fifty PGDE students from the Calabar study centre (not part of the target population) completed the test twice at a two-week interval. Pearson correlation coefficients ranged from .810 to .872 across the three domains (Table 1), indicating strong stability over time.

Table 1. Summary of the Pearson correlation results showing the reliability coefficient of the instrument after two administrations (n=50)

Variables	Administrations	K	∑	M	R
Philosophical foundations	First	10	957	17.02	.872
	Second	10	985	17.82	
Psychological foundations	First	10	935	16.94	
	Second	10	976	17.64	.844
Sociological foundations	First	10	983	17.78	
	Second	10	931	16.94	.810

N = No. of persons; ∑=sum of scores, K= no. of items, M= mean, r = reliability coefficient

3.4 Ethical Considerations

Ethical clearance was obtained from the University of Calabar's Research Ethics Committee (Approval number UC-IRB-2022-034). Permission to conduct the study was granted by the NTI State Office in Uyo. Participants were informed about the purpose of the study and their right to withdraw at any point without any penalty. Written consent was obtained prior to data collection, and confidentiality was assured through anonymisation of responses.

3.5 Data Collection

Data was collected in three phases to ensure comprehensive coverage of the PGDE programme's implementation. First, the 30-item achievement test was administered in person to all 402 students across the Uyo, Ikono, and Eket study centres, with the assistance of centre coordinators to facilitate logistics. Second, during students' teaching practice placements, two trained observers independently assessed each student's pedagogical competence using a standardised rubric covering communication, classroom management, lesson assessment, entry behaviour, and set induction. Third, institutional-level data were gathered through on-site visits to the three centres, where the researchers, guided by

coordinators, inspected facilities, reviewed staff records, and cross-checked course offerings against the National Minimum Standards for the PGDE programme. In addition, official documents, including the benchmark framework, teaching practice rubrics, and indicator lists, were collected from the NTI State Office in Uyo to complement the primary data. This multi-layered approach ensured that both student-level and institutional-level indicators were studied for a robust evaluation.

4. Results

4.1 Philosophical, Psychological, and Sociological Foundations of Education

As shown in Table 2, the PGDE students displayed mixed levels of understanding across the three foundations of education. Their performance in the philosophical (M = 4.60, SD = 2.96) and psychological (M = 4.87, SD = 3.16) foundations fell below the criterion mean of 5.00, suggesting insufficient grasp of these areas. This weakness implies that students are less able to critically engage with abstract educational concepts or apply psychological principles effectively in teaching and learning contexts.

In contrast, students performed above average in the sociological foundation of education (M = 5.78, SD = 2.75), indicating stronger competence in understanding the social dimensions of education. Taken together, the overall mean score of 5.09 marginally surpasses the benchmark, suggesting that while the PGDE students demonstrate adequate general knowledge of educational foundations, this understanding is uneven. Table 2 therefore underscores the need for targeted support in philosophy and psychology of education to complement the relative strength observed in the sociological dimension.

Table 2. Summary of descriptive statistics showing the performance of NTI PDGE students in the philosophy, sociology and psychology of education test

Variables	N	Sum	M	SD
Philosophical foundation	402	1851	4.60	2.96
Sociological foundation	402	2325	5.78	2.75
Psychological foundation	402	1959	4.87	3.16
Average	402	2045	5.09	1.77

Criterion mean = 5.00

4.2 Acquisition of Requisite Pedagogical Skills for Teaching

As presented in Table 3, the PGDE students demonstrated an overall low level of pedagogical competence (M = 1.93, SD = 1.29), falling below the criterion mean of 2.00. Weaknesses were most evident in formulating instructional objectives (M = 1.53, SD = 1.28) and using instructional aids (M = 1.58, SD = 1.27), where deficiencies in clarity, measurability, relevance, and skillful application were observed. These findings suggest that while students grasped the theoretical basis of teaching, they struggle to translate such knowledge into practice when preparing lessons and selecting or applying appropriate materials.

Nonetheless, the evidence also reveals areas of strength. The students performed above the expected average in assessing prior learning (M = 2.08, SD = 1.39), lesson development (M = 2.04, SD = 1.27), evaluation techniques (M = 2.12, SD = 1.27), and teacher personality (M = 2.05, SD = 1.39). This indicates competence in structuring lessons logically, engaging learners, managing classrooms, and applying effective evaluation strategies. Collectively, Table 3 highlights that while PGDE students possess practical strengths in delivering and assessing lessons, their limited ability to set clear instructional objectives and employ teaching aids undermines their overall pedagogical readiness.

Table 3. Mean and standard deviation showing the extent to which PGDE students in the NTI discipline acquired the requisite pedagogical skills for teaching (n = 402)

S/N	Measurable areas of pedagogical skills	Score	M	SD	Remark
1	Clarity/Relevance	622	1.547	1.284	L
2	Measurability	638	1.587	1.311	L
3	Comprehensiveness (covering the three domains)	579	1.44	1.23	L
Instructional objectives (Average)		613	1.525	1.275	L
4	The relevance of teaching aids to the topic	626	1.557	1.288	L
5	Clarity (bold enough to be seen by all)	611	1.52	1.26	L
6	Skillful/efficient use of aids/apparatus	575	1.43	1.24	L
7	The attractiveness of the aids	730	1.816	1.275	L
Instructional Aids/Materials (Average)		635.5	1.581	1.266	L
8	The relevance of the learning experience to the topic	877	2.182	1.351	H
9	Ability to establish relationships between previous and present learning experiences	798	1.985	1.418	L
Previous learning experiences (Average)		837.5	2.084	1.385	H
10	Mastery of subject matter	768	1.91	1.289	L
11	Logical and sequential presentation	824	2.05	1.256	H
12	Communication skills	771	1.918	1.289	L
13	Questioning skills	780	1.94	1.268	L
14	Learners' participation	826	2.055	1.252	H
15	Use of chalkboard	852	2.119	1.316	H
16	Class management, discipline, and control	828	2.06	1.209	H
17	Time management	831	2.067	1.272	H
18	Summary and conclusion	902	2.244	1.285	H
Lesson development (Average)		820.22	2.04	1.271	H
19	The relevance of evaluation techniques to the instruction	870	2.164	1.257	H
20	The comprehensiveness of evaluation techniques	832	2.07	1.271	H
21	Skillful use of evaluation techniques	856	2.129	1.267	H
22	Feedback	846	2.104	1.3	H
Lesson Evaluation (Average)		851	2.117	1.274	H
23	Quality traits (neatness, simplicity, punctuality)	824	2.05	1.356	H
24	Relationship with colleagues	839	2.087	1.444	H
25	Teacher-learners' relationship	813	2.022	1.381	H
Teachers' personality (Average)		825.33	2.053	1.394	H
	Grand Average	775.731	1.93	1.294	L

*Criterion mean = 2.00; H = High; L = Low

4.3 Adequacy of Available Academic Staff Strength for the PGDE Programme

As presented in Table 4, the NTI study centres in Uyo, Eket, and Ikono collectively employed 17 academic staff members, comprising 13 males and 4 females. All staff members possessed doctoral qualifications, which aligns with the benchmark for the PGDE programme. The three centres offered a total of 48 courses—27 in the first semester and 21 in the second semester. When distributed across staff, this workload equates to an average of three courses per lecturer per session (approximately two in the first semester and one in the second semester).

Table 4. Strength of available academic staff in the three study centres for the implementation of the PGDE programme in the NTI in terms of number and qualification

Study Centre	No of available staff (NS)			Educ. Qualification		No. of courses offered (NC)			Workload Per Head (NC/NS)		
	M	F	Total	M.Ed	PhD	1st sem	2nd sem	Total	1st sem	2nd sem	Total
Uyo	5	2	7	Nil	7	9	7	16	1	1	2
Eket	4	1	5	Nil	5	9	7	16	2	1	3
Ikono	4	1	5	Nil	5	9	7	16	2	1	3
Total	13	4	17	Nil	17	27	21	48	2	1	3

Note: NS = Number of staff available; NC = Number of courses offered; M = Male; F = Female

Centre-level breakdowns reveal that the Uyo centre, with seven staff members, maintained the lowest workload per lecturer at two courses per session, while Eket and Ikono, each with five staff members, recorded slightly heavier workloads of about three courses per lecturer per session. Although these figures suggest that the available academic staff are able to cover the required courses, the absence of a specific national benchmark for teacher-to-course or teacher-to-student ratios makes definitive judgments difficult. Thus, while the staffing profile appears numerically and qualitatively adequate, the interpretation remains tentative in light of the missing standards.

4.4 Conformity of Course Content with National Minimum Standards

As shown in Table 5, the PGDE programme across the three NTI study centres in Akwa Ibom State falls short of the national minimum standard for course provision. Out of the 22 prescribed courses, only 16 are offered (nine in the first semester and seven in the second), leaving six courses consistently unavailable across centres. While all core courses are provided in both semesters, significant gaps exist in the required and elective categories. Specifically, in the first semester, only one of the two required courses (Guidance and Counselling) is offered, with ICT and Computer Education omitted. Likewise, none of the six prescribed elective courses, such as Special Education, Citizenship Education, or Open and Distance Learning, are available.

In the second semester, the situation is similar: although all six prescribed core courses (e.g., Curriculum Implementation, Teaching Practice, and Project) are offered, neither of the required courses (Introduction to Teaching Profession and Seminar) is included. Additionally, only one elective course (Comparative Education) is available, while five others, including Education Law, Environmental Education, and Health Education, are omitted. These gaps indicate that the programme in its current form does not fully conform to the national minimum standard. The consistent absence of required and elective courses across centres highlights structural deficiencies in course implementation, which may hinder the breadth and quality of student preparation.

Table 5. Distribution of first- and second-semester courses expected to be offered and those offered at the Uyo, Eket, and Ikono study centres.

S/N	List of Courses		CU.	Courses availability status		
FIRST SEMESTER				Uyo	Eket	Ikono
Core courses				Status	Status	Status
1	EDU 0601	Philosophy of Education	1	O	O	O
2	EDU 0603	History of Education	1	O	O	O
3	EDU 603	Sociology of Education	1	O	O	O
4	EDU 0607	Psychology of Education	2	O	O	O
5	EDU 0609	Curriculum Development	2	O	O	O
6	EDU 0611	Educational Research & Stats	2	O	O	O
7	EDU 0613	Micro Teaching	2	O	O	O
8	EDU 0615	Subject Methods	2	O	O	O
Required Courses						
1	EDU 0617	Guidance & Counselling	2	O	O	O
2	EDU 0619	ICT & Computer Education	2	NO	NO	NO
Elective Courses (Any two elective courses)						
1	EDU 0621	Special Education	2	NO	NO	NO
2	EDU 0623	Citizenship Education	2	NO	NO	NO
3	EDU 0623	Use of Library	1	NO	NO	NO
4	EDU 0627	Population & Family Life Edu	2	NO	NO	NO
5	EDU 0629	Open & Distance Learning	2	NO	NO	NO
6	EDU 0631	Physical Education & Sports	2	NO	NO	NO
First semester total courses offered				9	9	9
First semester total courses not offered				3	3	3
SECOND SEMESTER						
Core Courses						
1	EDU 0602	Curriculum Implementation	2	O	O	O
2	EDU 0604	Educational Technology	2	O	O	O
3	EDU 0606	Edu Admin & Planning	2	O	O	O
4	EDU 0608	Edu Measurement & Evaluation	2	O	O	O
5	EDU 0610	Teaching Practice	6	O	O	O
6	EDU 0612	Project	4	O	O	O
Required Courses						
1	EDU 0614	Intro. To Teaching Profession	2	NO	NO	NO
2	EDU 0616	Seminar	2	NO	NO	NO
Elective Courses (Any two elective courses)						
1	EDU 0618	Comparative Education	2	O	O	O
2	EDU 0620	Education Law	2	NO	NO	NO
3	EDU 0622	Adult & Non-Formal Educ.	2	NO	NO	NO
4	EDU 0624	Environmental Education	2	NO	NO	NO
5	EDU 0626	Gender Studies	2	NO	NO	NO
6	EDU 0628	Health Education	2	NO	NO	NO
Second Semester Total courses offered				7	7	7
Second-semester total courses not offered				3	3	3
Grand Total (First + Second semester) offered				16	16	16
Grand Total (First + Second semester) not offered				6	6	6

Note: CU = Credit Unit; O = Offered; NO = Not Offered

5. Discussion

This study was motivated by the observation that graduates of distance education institutions in Nigeria often face fewer social and economic opportunities than their counterparts from conventional universities. The first key finding showed that the PGDE students had uneven understanding of the three major foundations of education. Their knowledge of the philosophical and psychological foundations was limited, which signals difficulty with abstract reasoning, critical engagement with educational ideas and the practical use of psychological principles in teaching and learning. This weakness suggests that the students did not possess the depth of theoretical grounding required to analyse educational problems or make informed instructional decisions. In contrast, their stronger performance in the sociological foundation shows clearer awareness of the social purposes of schooling, the influence of community life on education and the wider responsibilities teachers carry in society. This finding is consistent with the nature of sociological issues, which often draw from everyday experiences and are therefore easier for adult learners to understand. The combination of weak philosophical and psychological knowledge and stronger sociological awareness indicates that the students had a general understanding of the role of education in society but lacked the theoretical balance needed for sound professional judgement. This outcome aligns with the position of Alade (2020), who noted that NTI programmes strengthen knowledge and skills in some areas while leaving gaps in others. The present study strengthens this argument by showing that PGDE students require more focused learning experiences in philosophy and psychology of education so that their understanding of educational foundations becomes more even and better suited to the demands of effective teaching.

The second finding indicate that the PGDE students possessed only a moderate level of pedagogical competence, and this limited proficiency appeared most clearly in their difficulty with formulating instructional objectives and using teaching aids in a purposeful manner. Many students struggled to write objectives that were clear, measurable and relevant to the lesson, and they also found it hard to select or apply teaching materials in ways that supported learning. This pattern suggests that the students understood the theory of lesson planning but found it challenging to translate that knowledge into practical classroom tasks. This outcome aligns with the concerns raised by Odumosu et al. (2018), who reported that NTI graduates often face similar challenges with practical teaching skills, and it strengthens the argument that teacher preparation in Nigeria still requires stronger emphasis on hands-on pedagogical training. In contrast to these weaknesses, the students performed better in areas that involved direct interaction with learners, such as building on prior learning, organising lesson content in a logical sequence, encouraging participation, managing the classroom and applying basic evaluation techniques. These strengths suggest that the students were more comfortable with the flow of classroom activities than with the technical demands of planning and material selection. This pattern is consistent with the expectation that adult learners, especially those with some teaching exposure, tend to perform better in interactive tasks than in tasks that require detailed planning. The positive performance in teacher personality traits, such as neatness, punctuality and cordial relationships, also aligns with long-standing cultural expectations of teachers in Nigeria, where personal conduct is often viewed as an essential part of professional competence. The combination of strengths and weaknesses points to a training experience that supports interpersonal and organisational skills but does not provide enough guided practice in lesson planning and the effective use of instructional materials. This study contributes to the literature by providing clear evidence that PGDE students require more structured support in the technical aspects of pedagogy, and it reinforces earlier findings that practical teaching competence cannot be assumed from theoretical knowledge alone. The results also suggest that teacher education programmes in Nigeria may need to strengthen supervision, modelling and feedback during teaching practice so that students can develop confidence in planning lessons and using materials in ways that promote meaningful learning.

The third finding showed that the academic staff strength across the NTI study centres in Uyo, Eket and Ikono was adequate for the delivery of the PGDE programme. All lecturers held doctoral qualifications, which placed them above the minimum requirement for teaching at this level and provided a strong academic base for programme delivery. The number of courses offered across the centres was well within the capacity of the available staff, and the distribution of teaching responsibilities showed that lecturers handled a manageable load that allowed room for lesson preparation, assessment duties, research engagement and community service. The Uyo centre had the lightest workload per lecturer, while Eket and Ikono had slightly heavier but still reasonable loads. This finding suggests that the centres were able to assign courses in a balanced manner without overstretching staff. Although the absence of a national benchmark for staff to course or staff to student ratios limits the ability to make firm judgements, the staffing profile aligns with accepted expectations for postgraduate diploma programmes in Nigeria. This finding contrasts with earlier studies that reported shortages of qualified lecturers in Nigerian higher education, such as the concerns raised by Allais (2022), Jacob (2021) and Rintala and Nokelainen (2020). The present study therefore provides evidence that, at least within the NTI centres examined, staffing quality and quantity were sufficient to support effective programme implementation.

The fourth major finding revealed that the PGDE programme in the NTI study centres did not fully meet the national minimum standard for course provision. Although all core courses were available in both semesters, several required and elective courses were consistently absent across the centres. Important subjects such as ICT and Computer Education,

Introduction to the Teaching Profession, Seminar, Special Education, Citizenship Education, Use of Library, Population and Family Life Education, Education Law, Environmental Education and Health Education were not included in the programme. These omissions limit the breadth of learning experiences that PGDE students are expected to receive and reduce the ability of the programme to prepare them for the full range of professional responsibilities outlined in national policy. The absence of ICT and Computer Education is particularly concerning because digital competence is now central to effective teaching in Nigeria. Likewise, the exclusion of courses in Special Education and Citizenship Education restricts students' exposure to inclusive practices and civic responsibilities, which are essential components of teacher preparation. The pattern observed in this study aligns with earlier reports by Igwe et al. (2021), Ogundele (2021), Owan et al. (2021), Owan, Owan et al. (2022), and Owan, Chuktu et al. (2022), who noted persistent challenges in curriculum delivery and course implementation in Nigerian higher education. The present findings strengthen these concerns by showing that even when qualified staff are available, course offerings may still fall short of prescribed standards. This situation suggests the need for stronger oversight and more deliberate planning to ensure that PGDE students receive a complete and well-rounded academic experience that aligns with national expectations for teacher education.

5.1 Lessons Learned and Implications

The study provides several important lessons for strengthening the PGDE programme within the NTI system and for improving distance teacher education in Nigeria more broadly. The first lesson concerns the need for a balanced grounding in the philosophical, psychological and sociological foundations of education. The uneven performance of the students in these areas shows that distance education can widen access to teacher preparation, but access alone does not guarantee deep understanding. Weaknesses in philosophy and psychology limit the ability of future teachers to understand learners, interpret educational ideas and make sound instructional decisions. This suggests that NTI centres must strengthen the delivery of these foundational courses through improved instructional materials, more interactive learning opportunities and closer academic support for students.

A second lesson relates to the central place of pedagogical competence in teacher preparation. Although the students showed reasonable ability in lesson organisation and evaluation, their difficulties with communication, questioning and the use of teaching aids point to gaps in practical classroom skills. These skills are essential for effective teaching and are often used by employers to judge readiness for professional practice. The findings therefore suggest that NTI centres need to provide more guided practice, stronger supervision during teaching practice and more opportunities for students to apply theoretical knowledge in real classroom situations.

A third lesson concerns staffing. The presence of qualified lecturers with doctoral degrees is commendable, but qualifications alone do not guarantee effective programme delivery. The absence of clear guidelines on staff to course ratios creates room for uneven workloads across centres, which may affect the quality of teaching and student support. Institutions must therefore pay attention to workload management, staff development and regular monitoring of teaching responsibilities to ensure that lecturers are able to deliver courses effectively.

The fourth lesson relates to curriculum implementation. The consistent omission of several required and elective courses, including ICT, Special Education, Citizenship Education and other important subjects, reduces the relevance of the programme to national education needs. These omissions limit the breadth of knowledge that PGDE students are expected to acquire and weaken their preparation for the demands of contemporary classrooms. Curriculum managers must therefore ensure full compliance with the National Minimum Standard and avoid selective delivery of courses that undermines the integrity of the programme.

These lessons have important implications for policy and practice. Policymakers need to strengthen oversight mechanisms for distance teacher education, particularly in relation to curriculum delivery, staffing and student support. NTI administrators should review course allocation procedures, improve monitoring of teaching practice and ensure that all prescribed courses are offered consistently across centres. Teacher education regulators may also consider developing clear benchmarks for staff to course ratios in distance learning environments to guide institutions and promote uniform standards. For practice, the findings suggest that lecturers should adopt more interactive teaching methods, provide clearer guidance on lesson planning and support students in developing practical classroom skills.

5.2 Limitations and Future Research Directions

The study had several limitations that should guide the interpretation of its findings. The investigation focused on only three NTI study centres within Akwa Ibom State, and although these centres provided useful information, the results cannot be assumed to represent the experiences of PGDE students across the entire country. The study also relied on achievement tests, observation checklists and document reviews, which provided valuable evidence but did not include the views of students, lecturers or employers of NTI graduates. These perspectives could have added depth to the evaluation of programme quality. In addition, the assessment of academic staff sufficiency depended on workload estimates because clear national guidelines on lecturer to course ratios for PGDE programmes were not available. This limited the precision of the judgement on staffing adequacy.

Future research should broaden the geographical scope to include NTI centres in other states and regions so that a more complete national picture of the PGDE programme can be developed. Studies that combine quantitative tools with interviews, focus groups and classroom observations would provide richer understanding of how students, lecturers and employers perceive the quality and relevance of the training. Researchers should also consider longitudinal studies that follow NTI PGDE graduates into the workplace to examine their classroom practices, employment outcomes and career progression in comparison with graduates from conventional universities. Such evidence would support policy makers in making informed decisions on the recognition, improvement and long-term development of distance teacher education in Nigeria.

6. Conclusion and Recommendations

The implementation of the PGDE programme at the NTI study centres in Akwa Ibom State faces critical challenges that hinder the achievement of its objectives. While the programme has improved students understanding of educational foundations, especially the sociological aspect, their grasp of the philosophical and psychological dimensions remains weak. Although academic staff were adequate in number and qualification, many PGDE students still lacked the core pedagogical competencies required for effective classroom practice. These findings point to the need for stronger teaching in philosophical and psychological foundations, deliberate skill development in pedagogy, and investment in facilities that support quality learning. A further concern is the failure of the NTI centres to meet the National Minimum Benchmark in course offerings. This underscores the urgency of a curriculum review to ensure alignment with prescribed national standards. Without this, the credibility and effectiveness of the PGDE programme will remain in doubt.

Beyond the immediate context, this study makes two contributions. First, it provides evidence that can guide NTI in strengthening its PGDE programme to produce graduates who are both competent and employable. Second, it has utility for distance education institutions within and outside Nigeria that face questions of programme credibility and graduate quality. By showing where gaps exist and how they affect outcomes, the study informs wider policy debates on teacher education, distance learning, and the professionalisation of teaching. It also reinforces the need for stronger quality assurance mechanisms that can sustain confidence in distance education as a legitimate pathway for teacher preparation.

Based on these findings, the study recommends that NTI strengthen instructional delivery in weak areas of the foundations of education, embed practical skill development into coursework, and ensure that essential pedagogical competencies are deliberately cultivated. There is also a need for adequate provision of learning facilities and closer monitoring of curriculum implementation. Policymakers and regulatory bodies such as the TRCN should enforce compliance with the national benchmark, while supporting NTI with resources to meet those standards.

Acknowledgments

The researchers are grateful to the coordinators and staff of the NTI study centres in Akwa Ibom State for their cooperation during the data collection process. Appreciation is also extended to the PGDE students who participated in the study, the academic staff who provided access to records and teaching schedules, and the administrative officers who assisted with logistics and documentation. The support received from state-level NTI management, as well as the encouragement from colleagues and mentors within the wider teacher education community, contributed meaningfully to the successful completion of this work.

Authors contributions

VJO and AAI were responsible for the study design and revising the manuscript. SBU was responsible for data collection. AOE drafted the manuscript, while SBU revised it. ORA, CAD, VMO, MOE and GUI assisted with reviewing and refining the manuscript. All authors read and approved the final manuscript. VJO and AAI contributed equally to the conception and development of the study and are considered joint primary contributors. No other special authorship agreements is applicable to this study.

Funding

This research did not receive any specific grant or financial support from funding agencies in the public, commercial, or not-for-profit sectors.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Redfame Publishing.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

References

Admiraal, W., Schenke, W., De Jong, L., Emmelot, Y., & Sligte, H. (2021). Schools as professional learning communities: What can schools do to support the professional development of their teachers? *Professional Development in Education*, *47*(4), 684-698. https://doi.org/10.1080/19415257.2019.1665573

Alade, I. A. (2020). Curriculum implementation status and adoption of ICT resources in distance learning programme of the Nigerian teachers' institute. *KIU Journal of Humanities*, *5*(1), 325-333. https://bit.ly/47xnceI

Allais, S. (2022). Skills for industrialisation in sub-Saharan African countries: Why is systemic reform of technical and vocational systems so persistently unsuccessful? *Journal of Vocational Education & Training*, *74*(3), 475-493. https://doi.org/10.1080/13636820.2020.1782455

Arop, F. O., Owan, V. J. & Ibor, I. O. (2019). School quality indicators and secondary school teachers' job performance in Cross River State, Nigeria. *International Journal of Education and Evaluation*, *5*(3), 19-28. https://goo.gl/UZ7ELd

Bakar, R. (2018). The influence of professional teachers on Padang vocational school students' achievement. *Kasetsart Journal of Social Sciences*, *39*(1), 67-72. https://doi.org/10.1016/j.kjss.2017.12.017

Ballantine, J., Stuber, J., & Everitt, J. (2021). *The sociology of education: A systematic analysis*. Routledge. https://doi.org/10.4324/9781003023715

Bassey, B. A., Owan, V. J. & Eze, E. A. (2019). Nexus between students, teachers and school system effectiveness: Construction and factorial validity of a measuring instrument. *British Journal of Education*, *7*(7), 62-75. https://tinyurl.com/y3hr7jd3

Cohen, L., Mansion, L., & Morrison, K. (2008). *The methodology of Educational Research*. Metacichmio, Athens.

Delamont, S. (2017). *Interaction in the classroom: Contemporary sociology of the school*. Routledge.

Demir, E., & Demir, C. G. (2021). Investigation of parents' opinions about distance education during the COVID-19 pandemic. *Turkish Online Journal of Distance Education*, *22*(2), 42-57. https://doi.org/10.17718/tojde.906485

Donitsa-Schmidt, S., & Ramot, R. (2020). Opportunities and challenges: Teacher education in Israel in the Covid-19 pandemic. *Journal of Education for Teaching*, *46*(4), 586-595. https://doi.org/10.1080/02607476.2020.1799708

Duchesne, S., & McMaugh, A. (2018). *Educational psychology for learning and teaching*. Cengage AU.

Dutilh, N. C. (2022). Two types of refutation in philosophical argumentation. *Argumentation*, *36*(4), 493-510. https://doi.org/10.1007/s10503-022-09583-5

Falloon, G. (2020). From digital literacy to digital competence: the teacher digital competency (TDC) framework. *Educational Technology Research and Development*, *68*, 2449-2472. https://doi.org/10.1007/s11423-020-09767-4

Federal Republic of Nigeria (2004). *National policy on education*. NERDC Publishers

Gavrilis, V., Mavroidis, I., & Giossos, Y. (2020). Transactional distance and student satisfaction in a postgraduate distance learning program. *Turkish Online Journal of Distance Education*, *21*(3), 48-62. https://doi.org/10.17718/tojde.762023

Gess-Newsome, J., Taylor, J. A., Carlson, J., Gardner, A. L., Wilson, C. D., & Stuhlsatz, M. A. (2019). Teacher pedagogical content knowledge, practice, and student achievement. *International Journal of Science Education*, *41*(7), 944-963. https://doi.org/10.1080/09500693.2016.1265158

Gudmundsdottir, G. B., & Hatlevik, O. E. (2018). Newly qualified teachers' professional digital competence:

implications for teacher education. *European Journal of Teacher Education*, *41*(2), 214-231. https://doi.org/10.1080/02619768.2017.1416085

Gueldner, B. A., Feuerborn, L. L., & Merrell, K. W. (2020). *Social and emotional learning in the classroom: Promoting mental health and academic success*. Guilford Publications.

Hämäläinen, J. (2015). Defining social pedagogy: Historical, theoretical and practical considerations. *The British Journal of Social Work*, *45*(3), 1022-1038. https://doi.org/10.1093/bjsw/bct174

Hanaysha, J. R., Shriedeh, F. B., & In'airat, M. (2023). Impact of classroom environment, teacher competency, information and communication technology resources, and university facilities on student engagement and academic performance. *International Journal of Information Management Data Insights*, *3*(2), Article 100188. https://doi.org/10.1016/j.jjimei.2023.100188

Hermino, A., & Arifin, I. (2020). Contextual character education for students in the senior high school. *European Journal of Educational Research*, *9*(3), 1009-1023. https://doi.org/10.12973/eu-jer.9.3.1009

Igwe, P. A., Hack-Polay, D., Mendy, J., Fuller, T., & Lock, D. (2021). Improving higher education standards through reengineering in West African universities–A case study of Nigeria. *Studies in Higher Education*, *46*(8), 1635-1648. https://doi.org/10.1080/03075079.2019.1698534

Jääskä, E., & Aaltonen, K. (2022). Teachers' experiences of using game-based learning methods in project management higher education. *Project Leadership and Society*, *3*, Article 100041. https://doi.org/10.1016/j.plas.2022.100041

Jacob, F. I., John, S. A., & Gwany, D. M. (2020). Teachers' pedagogical content knowledge and students' academic achievement: A theoretical overview. *Journal of Global Research in Education and Social Science*, *14*(2), 14-44. https://www.ikprress.org/index.php/JOGRESS/article/view/5405

Jacob, O. N., & Garba, A. D. (2021). Shortage of academic staff in the higher institution of learning in Nigeria. *Central Asian Journal of Social Sciences and History*, *2*(3), 108-124.

König, J., Blömeke, S., Jentsch, A., Schlesinger, L., née Nehls, C. F., Musekamp, F., & Kaiser, G. (2021). The links between pedagogical competence, instructional quality, and mathematics achievement in the lower secondary classroom. *Educational Studies in Mathematics*, *107*, 189-212. https://doi.org/10.1007/s10649-020-10021-0

Lingard, B., & Thompson, G. (2017). Doing time in the sociology of education. *British Journal of Sociology of Education*, *38*(1), 1-12. https://doi.org/10.1080/01425692.2016.1260854

Luo, W., Berson, I. R., Berson, M. J., & Park, S. (2023). An exploration of early childhood teachers' Technology, Pedagogy, and Content Knowledge (TPACK) in Mainland China. *Early Education and Development*, *34*(4), 963-978. https://doi.org/10.1080/10409289.2022.2079887

National Teachers' Institute (2005). *Leaflet*. NTI Printing Press.

National Teachers' Institute (2015). Handbook on graduate and postgraduate diploma in education by distance learning NTI Printing Press

Odigwe, F. N., Offem, O. O., & Owan, V. J. (2018). Vocational training duration and university graduates' job performance in Cross River State, Nigeria. *International Journal of Current Research*, *10*(7), 72024-72028. https://doi.org/10.5281/zenodo.4320545

Odumosu, M. O., Fisayo, A., Olisama, O. V. (2018). Teachers' content and pedagogical knowledge on students' achievement in algebra. *International Journal of Education and Research*, *6*(3), 1-20.

Ogundele, M. O. (2021). Reengineering indigenous education for equality and global competitiveness of Nigeria secondary education. In J. N. Mojekwu, W. Thwala, C. Aigbavboa, L. Atepor, & S. Sackey (Eds), Sustainable education and development. Springer, Cham. *Sustainable Education and Development* (pp. 89–96). Springer International Publishing. https://doi.org/10.1007/978-3-030-68836-3_9

Oluwaseun, K. A. (2016). Determination and comparison of the quality of lecturers in the open and conventional universities in line with the National Universities Commission benchmark. *Journal of Education and Leadership Development*, *8*(1), 24-38.

Owan, V. J. (2018). Conflict management strategies and secondary school teachers' job effectiveness in Obubra Local Government Area of Cross River State, Nigeria [University of Calabar, Nigeria]. In *B.Ed. Project*. https://doi.org/10.13140/RG.2.2.35015.55200

Owan, V. J., Agurokpon, D. C., & Udida, U. J. (2021). Curriculum restructuring and job creation among Nigerian graduates: The mediating role of emerging Internet applications. *International Journal of Educational Administration, Planning, & Research (IJEAPR)*, *13*(2), 1-16. https://doi.org/10.5281/zenodo.5886422

Owan, V. J., Chuktu, O., Dijeh, A. E., Zaafour, A., Ukah, J. U., Chukwurah, M. U., … & Ojong, C. O. (2023). Distance education students' indulgence in six sharp practices: General linear modelling of predictive parameters. *Turkish Online Journal of Distance Education*, *24*(3), 71-92. https://doi.org/10.17718/tojde.1138050

Owan, V. J., Chuktu, O., Mbon, U. F., Denwigwe, C. P., Okpechi, P. A., Arop, L. O., ... & Akpa, S. U. (2022). Perspectives of Nigerian graduates on curriculum reengineering, acquisition of emerging technologies, and job creation: A descriptive study. *Journal of Curriculum and Teaching*, *11*(8), 224-237. https://doi.org/10.5430/jct.v11n8p224

Owan, V. J., Duruamaku-Dim, J. U., Okon, A. E., Akah, L. U., Agurokpon, D. C., Ubi, I. O., & Abanyam, V. A. (2022). Interlinking alcohol intake, mental stress, psychotic experiences and job performance of higher institutions' graduates: A structural equation modelling. *Journal of Education and Health Promotion*, *11*, Article 312. https://doi.org/10.4103/jehp.jehp_417_22

Owan, V. J., Ekpenyong, J. A., Owan, M. V., Owan, J. N., & Ekereke, A. B. (2023). Students' entrepreneurship development through indigenous palm wine production and alcohol distillation: The case of Yala-Obubra community. In T. M. Masenya (Ed.), *Digital preservation and documentation of global indigenous knowledge systems* (pp. 43-67). IGI Global. https://doi.org/10.4018/978-1-6684-7024-4.ch003

Owan, V. J., Emanghe, E. E., Denwigwe, C. P., Etudor-Eyo, E., Usoro, A. A., Ebuara, V. O., ... & Bassey, B. A. (2022). Curriculum management and graduate programmes' viability: The mediation of institutional effectiveness using PLS-SEM approach. *Journal of Curriculum and Teaching*, *11*(5), 114-127. https://doi.org/10.5430/jct.v11n5p114

Owan, V. J., Johnson, A. J., Osim, R. O., Anagbogu, G. E., Otu, B. D., Undie, S. B., … & Ekere, S. C. O. (2023). School-based supervisory practices and teachers' job effectiveness using bootstrapping in covariance-based structural equation modelling. *Cogent Education*, *10*(1), Article 2168406. https://doi.org/10.1080/2331186X.2023.2168406

Owan, V. J., Owan, M. V., & Lata, N. (2022). Discharge of pedagogic duties: A bootstrapped structural equation modelling of teachers' use of research materials in school libraries. *Journal of Applied Learning & Teaching*, *5*(2), 116-131. https://doi.org/10.37074/jalt.2022.5.2.13

Oyigbo, D. N., Ngwu, P. N., & Nwachukwu, R. U. (2021). Nonformal education and economic growth in Nigeria: The need for a system-wide programme development framework. *International Review of Education*, *67*, 687-709. https://doi.org/10.1007/s11159-021-09920-y

Probine, S. (2023). Becoming an artist/teacher: supporting preservice teachers to develop their confidence and pedagogical knowledge to effectively and actively teach the arts in early childhood. *Journal of Early Childhood Teacher Education*, *44*(1), 1-21. https://doi.org/10.1080/10901027.2021.1963890

Rintala, H., & Nokelainen, P. (2020). Vocational education and learners' experienced workplace curriculum. *Vocations and Learning*, *13*(1), 113-130. https://doi.org/10.1007/s12186-019-09229-w

Rodolico, G., & Hirsu, L. (2023). Virtual Reality in education: supporting new learning experiences by developing self-confidence of Postgraduate Diploma in Education (PGDE) student-teachers. *Educational Media International*, *60*(2), 92-108. https://doi.org/10.1080/09523987.2023.2262195

Saeverot, H. (2021). How may education be organised to safeguard its autonomy? *Educational Theory*, *71*(1), 113-128. https://doi.org/10.1111/edth.12470

Saracho, O. N. (2023). Theories of child development and their impact on early childhood education and care. *Early Childhood Education Journal*, *51*(1), 15-30. https://doi.org/10.1007/s10643-021-01271-5

Teachers Registration Council of Nigeria (TRCN 2010). The national benchmark for postgraduate diplomas in education in Nigeria. TRCN Press. https://trcn.gov.ng/PUBLICATION/PGDE%20approved%20by%20Edu%20Cmtee.pdf

Teräs, M., Suoranta, J., Teräs, H., & Curcher, M. (2020). Post-Covid-19 education and education technology 'solutionism': A seller's market. *Postdigital Science and Education*, *2*(3), 863-878. https://doi.org/10.1007/s42438-020-00164-x

Tuithof, H., Van Drie, J., Bronkhorst, L., Dorsman, L., & Van Tartwijk, J. (2023). Teachers' pedagogical content knowledge of two specific historical contexts captured and compared. *Educational Studies*, *49*(4), 686-711. https://doi.org/10.1080/03055698.2021.1877621

Undie, S. B., Mfon, E. U., Ogbudu, L. O., Uko, U. E., & Ebiale, J. O. (2023). Perceived influence of entrepreneurship education methods on economic security in Cross River State. *Prestige Journal of Education, 6*(1), 158-171.

Vanermen, L., Vlieghe, J., & Decuypere, M. (2022). Curriculum meets platform: A reconceptualisation of flexible pathways in open and higher education. *Curriculum Inquiry*, *52*(4), 443-468. https://doi.org/10.1080/03626784.2022.2120347