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ASSESSING NIGERIAN PRE-SERVICE TEACHERS' INCLUSIVE EDUCATION PEDAGOGICAL KNOWLEDGE

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Abstract

This study aimed at assessing pre-service teachers' inclusive education pedagogical knowledge. One hundred thirteen pre-service teachers who had completed their teaching practice in two colleges of education in Zamfara State, Nigeria were sampled for the study. The descriptive survey research design was employed in the study. The data collection instrument consisted of a 49-item cognitive assessment scale designed in a true or false format. Data were analyzed using frequencies and percentages. Results revealed that participants had good understanding of the dimensions of inclusive pedagogical content knowledge but showed a lower understanding in areas like assistive technologies, collaborative strategies, and flexible instructional approaches. It was concluded that there is a positive impact of curriculum and policy reforms in colleges of education, as evidenced by the participants' reported knowledge. Nonetheless, gaps in specific areas of knowledge highlight the need for further strengthening of the teacher education curriculum to ensure comprehensive preparation for inclusive teaching. Recommendations were made for the improvement of the teacher curriculum in colleges of education.

Keywords: Inclusive Education, Pedagogical Knowledge, Pre-Service Teachers, Special Needs

Introduction

Governments and international organizations have emphasized inclusive education as crucial to achieving Sustainable Development Goal 4, which calls for inclusive and equitable quality education and the promotion of lifelong learning opportunities for all. However, implementation challenges in inclusive education have stymied progress toward the global goal of providing quality education for all. Despite being a global policy priority, inclusive education has faced a number of challenges in developing countries such as Nigeria. For example, Nigeria is regarded as having one of the world's most unequal education systems, making participation of the marginalized in regular schools nearly impossible (Actionaid, 2020) even though it has over 25 million people with disabilities, and children with disabilities account for more than half of the country's 10.5 million out-of-school children (The IREDE Foundation (TIF), 2021). SENs are most times excluded in regular classrooms in Nigeria (Nwosu et al., 2018b; Nwosu et al., 2024), contributing to their discrimination and social isolation in society and worsening their well-being. As many as 95% of children with disabilities are denied basic education in Nigeria (Joint National Association of Persons with Disabilities (JONAPWD), 2015). One of the factors that have been identified to have bolstered this exclusion and discrimination in Nigeria is teacher inclusive education incompetence (Pinnock, 2020).

Current trend in the education of children with disabilities have focused on educating them in regular classes resulting in improved educational quality not only for children with special education needs who were previously marginalized or denied access to education (Narayan, & Patnaik, 2020) but also for all learners. At the center of the implementation of inclusive education is the teacher factor with great emphasis on teacher preparation and development (Nwosu et al., 2020).

A well-trained teacher workforce is regarded as the bedrock for successful inclusive education (Nwosu et al., in press). For example, researchers are currently recommending that teacher educators guarantee that pre-service teachers preparing to enter the teaching profession be exposed to positive inclusive experiences and are equipped with necessary pedagogical skills related to inclusive education (Mangope et al., 2018). Teacher education institutions provide a compulsory course on special needs education, and national reforms in the Nigerian educational system are attempting to deepen inclusive education techniques in pre-service teacher training

(Pinnock, 2020). This is geared towards equipping them with the competencies to handle children with special education needs (SENs) in regular classes.

The competence that enhances inclusive education revolves around teachers' understanding of inclusive pedagogical content knowledge (IPCK). IPCK is the knowledge teachers providing education in inclusive classrooms should have (Güven et al., 2022). Originally, teachers' pedagogical content knowledge refers to the 'specialized knowledge that integrates pedagogy and content, highlighting how teachers transform their subject knowledge into instructional material tailored to the needs of learner' (Mugambi & Chepkonga, 2024: 199). Within the inclusive education context, it extends to the knowledge teachers have that enables them to integrate pedagogy and contents to cater for the diverse needs of learners. Notwithstanding the fact that teachers produced in Nigerian teacher education faculties are found to be lacking in the skills needed to include children with disabilities in regular schools impeding the efforts of the Nigerian government to achieving Education for All, research evidence on pre-service teachers inclusive pedagogical skills in Nigeria, particularly those prepared in colleges of education, is still lacking leaving stakeholders with no evidence of how teacher curriculum should be advanced to facilitate inclusive education in Nigeria. To address this problem, it then becomes imperative to ascertain the inclusive education pedagogical knowledge possessed pre-service teachers, the challenges they face in teaching SENs during their TP as well as their training needs so as to inform policies and teacher curriculum.

This study aims at furnishing stakeholders with empirical evidence on pre-service teachers' inclusive education pedagogical knowledge, their challenges and training needs so as to advance inclusive education in Nigeria. Based on this purpose of the study the following research questions guided the study:

1. What is pre-service teachers' knowledge of learners as inclusive education pedagogical content skills?
2. What is pre-service teachers' knowledge of curriculum adaptation/instructional strategies as inclusive pedagogical content skills?
3. What is pre-service teachers' knowledge of assessment and evaluation as inclusive pedagogical content skills?

4. What is pre-service teachers' knowledge of classroom management as inclusive pedagogical content skills?
5. What is pre-service teachers' knowledge of collaboration and support as inclusive pedagogical content skills?

Methods

The descriptive survey research approach was used for the study because we explored preservice teachers' knowledge of inclusive pedagogical content from a sample that can be generalised to the population. Two Colleges of Education in Zamfara State, Nigeria, were sampled, and the sample size consisted of 113 pre-service teachers who had finished their teaching practice and provided consent to participate. The demographic data of the respondents are presented in Table 1.

A researcher-developed cognitive test was employed to collect the data. The test was developed after extensive literature review. We took into consideration the vast components of pedagogical content knowledge in the development of the test. The items were structured in such a way that there would be a right or wrong answer since we are measuring their knowledge about inclusive pedagogical contents. This test consisted of two sections. Section A focused on pre-service teachers' demographic data whereas Section B comprised the five clusters made up of the 49-item structured using the "yes" or "no" format. Cluster A focused on the on Knowledge of Learners (5 items), cluster B consists of the Curriculum Adaptation/Instructional Strategies (18 items), cluster C comprises items on inclusive Assessment and Evaluation (11 items); cluster D is made of items on inclusive Classroom Management (8 items), while cluster E consists of items on inclusive Collaboration and Support (7 items). The internal consistency of the instrument was obtained using the Kuder-Richardson Formula 20 (KR-20), and a coefficient of 0.769 was obtained indicating that the test is fit for data collection.

Data was collected by following established ethical procedures in social sciences. First the consent of the respondents was duly sought, and the purpose of the study was explained to the respondents. Only pre-service teachers who gave their consent were included in the study. Thereafter, the test was administered to the students who have completed their TP. The test was collected on the spot. Researchers and research assistants were available to aid the students fill in the test properly. The data was analyzed using frequencies and percentages. Students were deemed

competent or not based on their responses, with a threshold of 50% or higher, contingent upon whether an item was framed positively or negatively.

Results

Table 1: Demographic Variables of the Respondents

Variables		Freq.	%	Valid %
Gender	Male	22	19.5	19.6
	Female	90	79.6	80.4
	Total	112	99.1	100.0
	Missing	1	.9	
Age	18-22	74	65.5	66.7
	23-27	34	30.1	30.6
	28-32	3	2.7	2.7
	Total	111	98.2	100.0
	Missing	2	1.8	
Subject taught During TP	arts	43	38.1	43.0
	science	57	50.4	57.0
	Total	100	88.5	100.0
	Missing	13	11.5	
Level in School	level 2	30	26.5	37.5
	level 3	49	43.4	61.3
	level 4	1	.9	1.3
	Total	80	70.8	100.0
	Missing	33	29.2	
Had Special Need Child in School	No	34	30.1	30.9
	Yes	76	67.3	69.1
	Total	110	97.3	100.0
	Missing	3	2.7	
Believe Special Needs Child should be in regular Class	No	18	15.9	16.4
	Yes	92	81.4	83.6
	Total	110	97.3	100.0
	Missing	3	2.7	
Learned to teach Special Needs Child in College of Education	No	9	8.0	8.0
	Yes	103	91.2	92.0
	Total	112	99.1	100.0
	Missing	1	.9	
Did a Course on Special Needs in College of Education	No	8	7.1	7.3
	Yes	101	89.4	92.7
	Total	109	96.5	100.0
	999.00	4	3.5	

Table 1 shows the socio-demographic data of the respondents. Most of the participants are female students (80.4%), 66.7% were between the age range of 18-22 years thereby constituting the majority of our participants. About 57% of the respondents taught science-related subjects during the TP exercise, and most of the students were in the third year of their programme. More than

69% of the students reported that they had students with SENs in their classes and a significant number of the respondents believed that students with SENs should be in regular classes with their peers. Almost all the respondents agreed that they were taught to teach students with SENs in their programme by doing a course in special needs education in the college.

Table 2: Percentage Responses of Respondents on *Knowledge of Learners as Inclusive Education Pedagogical Skills*

S/N	*Rate the following statements to indicate what is true or not:*	False		True		Remarks
		F	*%*	*F*	*%*	
1.	To teach in an inclusive classroom, the teacher must understand the diverse learning needs of the students	4	3.6	106	96.4	Good knowledge
2.	In inclusive classrooms, students' cultural and social backgrounds are taken into consideration for effective teaching and learning	7	6.4	102	93.6	Good knowledge
3.	It is not important for a teacher to understand the abilities/disabilities of the learners for effective teaching in an inclusive classroom	62	56.9	47	43.1	Poor knowledge
4.	Inclusive pedagogy involves teachers understanding of the signs of learning difficulties or disabilities of their students	14	12.8	95	87.2	Good knowledge
5.	For effective teaching in an inclusive classroom, the impact of students' abilities or disabilities must be understood	11	10.1	98	89.9	Good knowledge

Table 2 show percentage responses on participants' knowledge of learners as inclusive education pedagogical skills. Out of the five items listed, respondents had good knowledge on four (with percentage of true > 50). These include the fact that teachers should be able to understand the diverse learning needs of students, take into consideration students' cultural and social backgrounds are taken into consideration for effective teaching and learning, understand signs of learning difficulties or disabilities, and also the impact of students' abilities or disabilities. They had poor knowledge on item 3 (with percentage of true < 50) which state that teachers must understand the abilities and disabilities of the learner for effective. Overall, they could be said to have good knowledge on this dimension of teacher inclusive pedagogical content skills

Table 3: Percentage Responses on Curriculum Adaptation/Instructional Strategies as Inclusive Pedagogical Content Skills

S/N	*Rate the following statements to indicate what is true or not:*	False		True		Remarks
		F	*%*	*F*	*%*	
1.	Inclusive pedagogy involves adapting teaching materials to meet the needs of students with disabilities	7	6.4	102	93.6	Good knowledge
2.	The use of assistive technologies such as screen readers, audio materials to support learners with disabilities is not an important aspect of curriculum adaptation in teaching in an inclusive education classroom	42	38.2	68	61.8	Poor Knowledge

3.	For inclusive pedagogy, there is the necessity to modify the curriculum for all learners	21	19.1	89	80.9	Good knowledge
4.	Various teaching materials are not necessary to be incorporated in an inclusive classroom	52	48.1	56	51.9	Poor knowledge
5.	Inclusive pedagogy involves the employment of different instructional strategies to support students with diverse learning needs	15	13.9	93	86.1	Good knowledge
6.	Collaborative learning activities are not usually a part of inclusive pedagogy	45	41.3	64	58.7	Poor knowledge
7.	Collaborative/cooperative learning does not aim to promote social inclusion in an inclusive classroom	58	54.2	49	45.8	Good knowledge
8	Inclusive pedagogy does not require adjusting the teaching pace to accommodate all learners	50	48.1	55	51.9	Poor knowledge
9	Inclusive pedagogy aims to incorporate strategies that allows for individual abilities in learning	17	15.9	90	84.1	Good knowledge
10	Diverse learning styles are recognized in inclusive pedagogy	18	16.5	91	83.5	Good knowledge
11	Individualized instructions are at the core of inclusive pedagogy	16	15.0	91	85.0	Good knowledge
12	Inclusive pedagogy involves encouraging the participation of all learners irrespective of their abilities in classroom activities	14	12.7	96	87.3	Good knowledge
13	Inclusive pedagogy thrives with flexible curriculum	29	26.6	80	73.4	Good knowledge
14	For an inclusive pedagogy, contents are differentiated for learners with varying abilities	17	15.7	91	84.3	Good knowledge
15	Inclusive Pedagogy involves multiple representation approaches (e.g., visual, auditory, tactile) to present contents.	17	15.5	93	84.5	Good knowledge
16	Flexible teaching approaches are not necessary in inclusive pedagogy	52	47.7	57	52.3	Poor knowledge
17	Providing extra time to teach children with disabilities is a necessary aspect of an inclusive pedagogy	18	16.4	92	83.6	Good knowledge
18	Allowing them extra-time to copy notes on the chalkboard is a necessary aspect of an inclusive pedagogy	20	18.2	90	81.8	Good knowledge

Table 3 shows that participants had poor knowledge on items 2, 4,6, 8 and 16 whereas they had good knowledge on the remaining items. The poor knowledge centred on when questions were asked regarding assistive technologies collaborative strategies and flexible teaching approaches. It could be that a good number of the students did not understand the questions when framed in the negative. Overall, participants could be said to have good knowledge curriculum adaptation/instructional strategies as inclusive pedagogical content skills.

Table 4: Percentage Responses on Assessment and Evaluation as Inclusive Pedagogical Content Skills

S/N	*Rate the following statements to indicate what is true or not:*	False		True		Remarks
		F	%	F	%	

1.	Inclusive pedagogy would involve adjusting assessments tasks (e.g., tests, quizzes) to accommodate students with special educational needs.	20	18.2	90	81.8	Good knowledge
2.	Inclusive education pedagogy does not allow the use a variety of assessment methods (e.g., oral presentations, projects) to evaluate student learning.	32	29.1	78	70.9	Poor knowledge
3.	Inclusive education pedagogy allows for provision of feedback that is tailored to their individual needs	17	15.5	93	84.5	Good knowledge
4.	Inclusive education pedagogy permits alternative assessments (e.g., oral exams) for students with special needs.	13	11.8	97	88.2	Good knowledge
5.	Giving them more time during testing is not necessary in inclusive education pedagogy	49	44.5	69	55.5	Poor knowledge
6.	Communicating assessment criteria on time to students with disabilities undermines inclusive education pedagogy	24	21.8	86	78.2	Good knowledge
7.	Informing students with disabilities how grades are to be assigned undermines inclusive education pedagogy	27	24.5	83	75.5	Good knowledge
8	Providing written or oral feedback to students with disabilities undermines inclusive education pedagogy	32	29.1	78	70.9	Good knowledge
9	Incorporating the efforts of students with disabilities in the calculation of their grades undermines inclusive education pedagogy	23	20.9	87	79.1	Good knowledge
10	Incorporating the students with disabilities' classroom behaviors in calculating their grades undermines inclusive education pedagogy	22	20.6	85	79.4	Poor knowledge
11	Producing tests in large prints for students with disabilities undermines inclusive education pedagogy	37	34.6	70	65.4	Poor knowledge

Table 4 revealed that student teachers had good knowledge of assessment and evaluation as inclusive pedagogical content skills on seven items whereas they had poor knowledge on four items. It could be said that overall, the student teachers had relatively good knowledge of assessment and evaluation as inclusive pedagogical content skills.

Table 5: Percentage Responses on Classroom Management as Inclusive Pedagogical Content Skills

S/N	**Rate the following statements to indicate what is true or not:**	**False**		**True**		**Remarks**
		F	**%**	**F**	**%**	
1.	Inclusive pedagogy would involve creating a classroom environment that fosters inclusion and participation for all students.	10	9.0	101	91.0	Good knowledge
2.	Inclusive education pedagogy does not allow the use of classroom management strategies that promote positive behavior in all learners, including those with disabilities.	56	50.5	55	49.5	Good knowledge
3.	Inclusive education pedagogy does not allow positive peer interactions and support among students of different abilities.	49	44.5	61	55.5	Poor Knowledge
4.	Inclusive education pedagogy involves managing disruptive behavior in ways that consider the needs of students with disabilities.	16	14.7	93	85.3	Good knowledge
5.	Inclusive education pedagogy involves making sure that children with disabilities are monitored during my teaching	16	14.7	93	85.3	Good knowledge

6.	Inclusive education pedagogy involves observing how the child relates with other children as they play in the field, work together in classes	16	14.4	95	85.6	Good knowledge
7.	Inclusive education pedagogy involves looking out for behaviours that are impediments to learning in class as well as detrimental to the health of the child and they peers.	17	15.5	93	84.5	Good knowledge
8	Understanding behaviour management strategies is important to inclusive pedagogy	21	20.0	84	80.0	Good knowledge

Table 5 which bordered on student teachers' knowledge classroom management as inclusive pedagogical content skills revealed that students were knowledgeable about inclusive classroom management. Of all the items listed they had poor knowledge only on item 3 which has to do with inclusive education and peer relationship.

Table 6: Collaboration and Support as Inclusive Pedagogical Content Skills

S/N	***Rate the following statements to indicate what is true or not about them:***	**False**		**True**		**Remarks**
		F	%	F	%	
1.	Inclusive pedagogy would involve collaborating with special education staff to plan and implement inclusive lessons.	7	6.3	104	93.7	Good knowledge
2.	Inclusive education pedagogy does not allow collaborating with special education staff to plan inclusive lessons.	53	47.7	58	52.3	Poor Knowledge
3.	Inclusive education pedagogy allows working with special education staff to implement inclusive lessons.	17	15.3	94	84.7	Good Knowledge
4.	Inclusive education pedagogy does not include regularly communicating with parents or guardians about their children's progress in an inclusive classroom.	55	50	55	50	Average Knowledge
5.	Inclusive education pedagogy includes seeking support and resources from colleagues when addressing the needs of students with disabilities.	19	17.1	92	82.9	Good knowledge
6.	Inclusive education pedagogy involves talking with parents of children with disabilities on the supports they need	25	22.7	85	77.3	Good knowledge
7	Inclusive education pedagogy involves engagement in multidisciplinary teams for planning and delivering inclusive education	27	24.3	84	75.7	Good knowledge

Table 6 revealed the percentage responses of student teachers on their knowledge collaboration and support as inclusive pedagogical content skills. The table shows that students were knowledgeable in 6 out of the 7 items listed in the table. They had poor knowledge only on item 2.

Discussion

Our findings revealed how knowledgeable our respondents are regarding the inclusive pedagogical content skills. It was found that they appear to possess good knowledge of the

inclusive pedagogical content skills aligning with prior studies where preservice teachers have reported that they have acquired the necessary pedagogical knowledge of instructional and adaptation skills to include students with special needs (Darkor et al., 2022). However, caution must be taken in the interpretation of the findings since preservice teachers were observed to report insufficient knowledge on inclusive pedagogical content skills if the items are negatively framed.

Our results indicated that our respondents had good knowledge of the diverse characteristics of learners which represents a fundamental aspect of inclusive pedagogical content knowledge (IPCK) as defined by Florian & Black-Hawkins (2011). The essential understanding of learners' backgrounds and learning needs and styles enables educators to create inclusive learning environments and represents an important move towards inclusive pedagogy. However, the study also highlighted a notable gap in which respondents did not possess thorough knowledge about their students' particular abilities and disabilities. The inability to fully understand all learner abilities limits the achievement of effective inclusive teaching methods. Inclusive teaching demands more than awareness of students in general because it requires educators to understand specific learning needs related to disabilities (Sharma, Loreman, & Forlin, 2012; European Agency for Development in Special Needs Education, 2012). Teachers who lack this understanding are likely to find it difficult to create differentiated instruction and individualized supports which are essential for inclusive education (Tomlinson, 2014). Florian and Spratt (2013) assert that inclusive pedagogy demands an extension of standard educational resources to all students instead of creating specific accommodations for certain individuals. Teaching in an inclusive classroom requires teachers to identify and comprehend specific barriers that students with disabilities encounter. Insufficient training or exposure to inclusive education frameworks may explain why educators lack proper understanding (Alquraini & Gut, 2012). The effectiveness of inclusive teaching hinges not only on general learner knowledge but also on a deep understanding of diverse learner needs which includes those with disabilities. Research findings show that professional development and teacher education programs must target identification and understanding of specific disabilities to enhance classroom inclusivity. The plausible reason for this could as well be the implementation of outdated teacher training minimum standard that did not incorporate more of inclusive education. In affirmation to this, Haug (2017) asserted that broad-based evaluations of teacher education programmes across developing countries support the conclusion

that current teacher training programmes are deficient in addressing the task of preparing future teachers for inclusive education. Also, this finding supported the findings of Acquah et al. (2016) that without teacher preparation in special education programmes and practical understanding of what each disadvantaged learner requires as a special learning need, it is an almost impossible task to operate in an inclusive model classroom.

Second, our findings revealed that participants were knowledgeable regarding curriculum adaptation and instructional strategies, which are pivotal aspects of inclusive pedagogical content knowledge, and how to integrate inclusive teaching. However, they lacked fundamental knowledge and skills of using assistive technologies like screen readers and audio materials. This implies that student teachers possess some understanding of the concepts but fail to grasp the corresponding basic technological competencies essential for inclusion. This finding implies a disconnect between implementation and planning. Recent findings as in Sibanda and Mhlanga, (2024) revealed that educators seem to understand and may even be proficient in changing content and teaching methods to suit differing learners but fail to utilize assistive technologies required to aid learners with sensory or cognitive disabilities. Abu-Alghayth, (2020) asserted that this limitation stifles the effective use of inclusive approaches to education within the actual environment of classrooms. Furthermore, this finding suggests a lack of training in the use of assistive devices in the teacher education courses. Technologies that facilitate learning access for students who are blind, deaf, or physically disabled are crucial. In the absence of effective training, educators may unknowingly exclude these students despite best intentions.

Findings in Table 4 revealed that student teachers had good knowledge of assessment and evaluation as inclusive pedagogical content skills on seven items whereas they had poor knowledge on four items. They were able to know that assessing students with special educational needs demands flexibility in the use of these approaches. They were knowledgeable on issues such as provision of feedback tailored to students' needs, communicating criteria before time to students with disabilities, incorporating efforts of students with special needs in the evaluation procedures. This reflects the fact that curriculum may have recognized assessment and evaluation as critical aspects of inclusive education. Current understanding in inclusive education recognizes the fact that formative assessment and competence-based assessment are particularly very important in

inclusive education given the fact that these approaches enhance the learning of students with special needs (Huynh et al., 2022). While the student teachers demonstrated a general understanding of assessment and evaluation of students with special education needs, on the other hand, their knowledge appears limited on the issue of using a variety of approaches and incorporating the behaviours of students with special educational needs in assessing these students. This gap suggests potential inadequacies in their curriculum. Even among practicing teachers, there have observed gap in implementing assessments in such a way that it is tailored towards the needs of students with special needs (Huynh et al., 2022).

Results in Table 5 which bordered on student teachers' knowledge classroom management as inclusive pedagogical content skills revealed that students were knowledgeable about inclusive classroom management. They were knowledgeable on creating classroom environments that foster equity and fairness. To manage the classroom, they understand that equal opportunity for participation of all learners is crucial. For all students to thrive in an inclusive classroom environment, there is the need that stakeholders create an environment that will be welcoming to all students. Of all the items listed they had poor knowledge only on item 3 which has to do with inclusive education and peer relationship. The fact that they reported having good knowledge in this inclusive pedagogical dimension implies that their curriculum would have emphasized classroom management regarding inclusive education.

Results in Table 6 revealed the percentage responses of student teachers on their knowledge collaboration and support as inclusive pedagogical content skills. Results show that students were knowledgeable in 6 out of the 7 items listed in the table. They preservice teachers had the knowledge that they need to collaborate with different stakeholders for the inclusion of students with special education needs. This is an indication that their curriculum recognizes that partnership with stakeholders fosters inclusion. A number of studies recognizes partnership with government, parents/families, medics, special needs teachers, and non-governmental agencies as paramount to effective implementation of inclusive education (Ainscow, 2020). This leads to a pool of human and physical resources that will enable capacity to advance the learning of children with special education needs. They had poor knowledge only on item 2 which consisted of planning lesson with special education staff.

Conclusion and Limitations

This study examined pre-service teachers' pedagogical knowledge in inclusive education. Overall, the student teachers demonstrated a generally good understanding of inclusive pedagogical skills. However, caution is warranted in interpreting the data, particularly in relation to negatively worded items. Responses to these items suggest that some pre-service teachers may have misunderstood the questions, possibly due to insufficient reading or confusion over item phrasing. Despite this limitation, the findings indicate a positive impact of curriculum and policy reforms in colleges of education, as evidenced by the participants' reported knowledge. Nonetheless, gaps in specific areas of knowledge highlight the need for further strengthening of the teacher education curriculum to ensure comprehensive preparation for inclusive teaching.

Although this study makes significant contributions to the field of inclusive education, certain limitations are acknowledged, as they may affect the generalizability of the findings. First, the research was limited to two colleges of education within a single state in Nigeria. This limited geographic scope may not capture the diversity of inclusive education policies and practices across other states, particularly given potential cultural and attitudinal differences. Second, the findings may not be applicable to university students, as their training is often guided by distinct curricular frameworks. It is suggested that similar study be conducted across Nigerian universities.

Recommendations

Based on the findings, the following are recommended:

1. Lecturers should deepen the knowledge of preservice teachers on inclusive pedagogical content skills in such a way that they could be sure of their responses in such a way that even when the items are framed differently, they would be able to understand them. They should aim for preservice teachers' mastery of the concepts.
2. Curriculum planners should ensure that teacher education curriculum integrates the use of diverse assistive technologies for students with special needs since preservice teachers had poor knowledge on the use of diverse technologies to advance inclusion.
3. Also, stakeholders in education such as the government, NGOs, and global partners should invest on continuous professional development (CPD) since some of the deficiencies reported are likely to continue beyond preservice training.

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Conflict of Interest

No conflict of interest is declared.

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