INNOVATIVE APPROACHES AND INTEGRATIVE STRATEGIES IN TEACHER COUNSELLOR: ADVANCING TECHNOLOGY AND SUPPORT FOR STUDENTS WITH LEARNING DISABILITIES IN COLLEGES OF EDUCATION IN NORTH EASTERN, NIGERIA

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Abstract
This study investigates the use of innovative approaches and integrative strategies in teacher education, with a specific focus on enhancing technological support and providing assistance for students with learning disabilities in colleges of education in North East Nigeria. The study is guided by three main objectives: Three research questions were formulated to support these objectives: descriptive survey design was adopted for this study. The population comprised of special needs students specifically learning disabled and teacher educators and administrators across colleges of education in North East Nigeria, with a sample of 150 participants chosen via stratified random sampling. Data were collected using a structured questionnaire validated by educational experts. For data analysis, descriptive statistics and regression analysis were employed to examine the relationships among variables. Results indicate that while teacher educators show a positive attitude toward technology-based support for learning disabilities, the actual integration is limited due to resource constraints and lack of specialized training. Recommendations include prioritizing professional development in adaptive technology, increasing funding for inclusive education resources, and fostering partnerships with stakeholders to support students with disabilities effectively.

Introduction

In recent years, the education sector has increasingly recognized the importance of inclusivity and the need to cater to diverse learning needs, especially for students with learning disabilities which include problems at which the student may encounter in language in speaking, in writing and mathematical expression and even sometimes was associated with slow learning or attention problems are all areas attached to learning disabilities. In teacher education, integrating innovative approaches and adaptive strategies are essential to prepare future educators for supporting all students equitably. However, while this shift is gaining traction globally due to adequate care and proper attention to even specific student with learning disabilities, regions like North Eastern Nigeria face unique challenges to implement such changes. These challenges are often tied to socio-economic constraints, limited access to educational resources, and the need for infrastructure that can effectively integrate technology into teaching and learning process. For teacher education programs in the region to provide required support for students with learning disabilities, there is need for a specialized skill set and access to relevant tools that promote an inclusive learning environment.

Learning disabilities encompass a range of cognitive impairments, such as dyslexia, dyscalculia, dysgraphia, dysphonia etc, which can hinder a student's ability to learn at the same pace as their peers without tailored support. Teacher education programs play a critical role in equipping educators with the knowledge and skills necessary to address these unique needs. Yet, integrating specialized teaching strategies and technology-based solutions within these programs remains limited in North East Nigeria. Bridging this gap calls for innovative solutions that incorporate both modern technological tools and inclusive teaching methodologies, aimed at creating a supportive learning environment for all students (Carter, 2022).

The advancement of educational technology offers promising avenues for enhancing teacher preparation, especially in inclusive education. Technology can be instrumental in developing adaptive learning tools, visual aids, and assistive devices that can help mitigate learning challenges. However, for these tools to be effective, teacher educators must possess not only the technical skills to utilize them but also an open and positive attitude toward inclusion. This requires a shift from traditional teaching methods to integrative strategies that foster inclusivity and support students with learning disabilities (Adamu & Musa, 2020)

In North East Nigeria, the effective adoption of such inclusive practices faces significant obstacles, including limited funding, insufficient training, and scarce institutional resources and lack of concerned about the introduction of the program at colleges of education to acquire a certificate at NCE level. Addressing these issues requires a multifaceted approach that not only provides technological support but also encourages positive attitudes and open-mindedness among teacher educators toward students with learning disabilities (Chukwu, 2019)

This study aims to explore the level of technology integration in teacher education programs in North East Nigeria and assess teacher educators' attitudes toward using

innovative strategies for inclusive teaching. Furthermore, it seeks to identify the barriers to implementing technology-based solutions for supporting students with learning disabilities. By understanding these dynamics, this study hopes to contribute meaningful insights into ways colleges of education can advance their approach to inclusivity, advocating for policies and practices that strengthen support for all learners Carter, (2022). The last twenty years have been unprecedented time for parents and professionals who work with children with special needs. We have benefited from more effective special needs as well as from a trend towards more inclusive and normalized educational experiences for all children with disabilities (Roussos, 2003). As a society we have had more opportunities to learn from students with disabilities and from parents of children with disabilities. Researchers have learned more about effective interventions and children with special needs are being included in child care, recreational and educational programs more frequently.

But through the world, students with disabilities and many others who experience difficulties in learning are often marginalized within or, indeed, even sometimes excluded from school systems. Children and adolescents with disabilities ace inequalities in health care, transport, education, employment and other aspect of human life. A great number of these children live in developing countries where they often suffer neglect, stigma and discrimination (Barbette, Guillemin & Chua, 2001). The situation began to change only when legislation started to require including children with special needs in educational system.

Ensuring that children with disabilities receive good quality education in an inclusive environment should be a priority of all countries. The United Nations Convention on the Rights of Persons with Disabilities recognizes the right of all children with disabilities both to be included in general education system and to receive the individual support they require (Convention on the Rights of Persons with Disabilities, 2006).

For children with disabilities, as for all children, education is vital in itself, but also instrumented for participating in employment and other areas of social activity. In some cultures, attending school is part of becoming a complete person. Social relations can change the states of people with disabilities in society and affirm their rights (Nott, 2008). For children who are not disabled, contact with children with a disability in an inclusive setting, over the longer term, increase familiarity and reduce prejudice. So the main purpose of this paper is to investigate the role of educational inclusion of students with special educational needs in mainstream school system and to offer strategies or more precisely guidelines for teachers working with them.

The Means of the Term Disability
The World Health Organization has defined health as "a complete physical, mental and social well-being and merely the absence of disease or infirmity". The concept has been more recently extended to include health related with quality in life. According to the international classification of impairments, disabilities and handicap, impairment is concerned with physical aspects of health, disability has to do with the loss of functional capacity resulting from impaired organ and handicap is a measure of the social and cultural consequences of an impairment of disability (World Health Organization, 2011). Disability affects physical health, social relationship of

people, life in the context of family, friends and neighbors, psychological sate and level of independence. The consequences of disability can have an impact at personal, interpersonal, family and social levels. Disability affects the different facets of life of a person and this life is often complicated by negative forces, such as ignorance, prejudice, negativism and insensitivity.

Many disabilities with a clear medical basis are recognized by the child's physician or parents soon after birth or during the preschool years. In contrast the majority of students with disabilities are initially referred for evaluation by their classroom teacher or parents, because of severe and chronic achievement or behavioral problems (Carroll & Florin, 2003). These disability categories are based to varying degrees on eight dimensions of behavior ability: intelligence, achievement, adaptive behavior, social behavior and emotional adjustment communication, language, sensory status, motor skills and health status.

What are "Special Educational Needs"?
Some children find it harder or difficult to learn than other children of the same age. Children who are finding learning difficult are supported by their teachers, or with some extra help in school. A few children have more complicated learning difficulties and may need extra help or equipment in school to help them access an appropriate education.

Research and practice in special education show that students have special educational needs if they have a learning difficulty which calls for special educational provision to be made for them. About one in five children may have special educational needs of some kind. Some children may have special educational needs for relatively short

time; others have special educational needs right through their education.

Special educational needs, in relation to a person, a restriction in the capacity of the person to participate in and benefit from education on account of an enduring physical, sensory, mental health or learning disability, or any other condition which results in a person learning differently from a person without that condition (Smith, 2010).

Most of the children with special educational needs will have appropriate provision made for them by their school, working with parents. Sometimes the special educational needs (SEN) team may become involved in helping the school to provide the support needed (Farwell, et al., 2022). All professionals and parents realize that students with disabilities are human beings with a wide range of assets and limitations. Students with disabilities are different from the normal in one or two personal dimensions such as intelligence or achievement. The evaluation typically includes observation in the regular classroom, review of the child's educational history including past test scores, assessment with standardized tests of achievement if there are discrepancies between achievement and intellectual ability, and elimination of other possible causes of the learning problem (for example, sensory or visual deficits).

Educating Students with Special Needs
Special Education is a specialized area of education which uses unique instructional methods, materials, learning aids and equipment to meet the educational needs of students with disabilities. Special services designed instruction that meets the unique needs of a child who has a disability. These services are provided by the public school

system and include instruction in the classroom, at home, in hospitals and institutions.

Special education instructors work with youth and students with a wide range of disabilities. A small percentage of these special education teachers work will students with mental retardation or autism and primarily teach them life skills or basic competency. The majority of special education teachers work with students with mild to moderate learning disabilities. They use the general education curriculum and modify if to meet each child's individual needs. Most special education instruction teaches students at the elementary, middle, secondary and high levels (Hustler & Levi, 2008). Special education program provide instruction for specific learning difficulties and disabilities, such as speech and language impairments, emotional disturbances, hearing and visual impairments. Students are tested and listed under of one of the categories and paired with teachers are prepared to work. One of the most critical steps in aiding students with disabilities is early detection and intervention and most of the special education teachers are well qualified to aid the students in overcoming their disabilities.

Special education teachers use various techniques to promote learning. Depending on the disability, teaching methods can include individual instruction, problem-solving assignments and small group work. Special education makes for student to achieve academic success in the least restrictive environment despite their disability. So special education teachers help to develop an Individual Education Program (IEP) for each special education student. The IEP sets personalized goals for each student and is tailored to the student's individual needs and ability. Teachers work closely

with parents to inform them of their student's behavioral, social and academic development, helping the students develop emotionally, feel comfortable in social situation and be aware of socially acceptable behavior (Coleman, 2005). Special education teachers communicate and work together with parents, social workers, school psychologists, speech therapists, occupational and physical therapists (Oyez, Hall & Haas, 2017).

Benefits of Inclusive Education
Over the past years' inclusion has become increasingly the focus of many national and international policies of education. Many children with disabilities have become victim to an educational system which is not able to meet their individuals' needs. Inclusive education is a human rights issue. Inclusive education means that all children, regardless of their strength or weaknesses are accommodated in a school and become part of the school community. Inclusive education encourages bringing all students together in one classroom and following the same curriculum regardless of their diversities. The literature suggests that special needs students who have been educated in regular classes do better academically and socially than comparable students in non-inclusive settings (Karen, 2019). Also students with disabilities who were educated in inclusive settings made significantly greater progress in math than their non-disabled peers Students without disabilities can serve as positive speech and behavior role models and offer acceptance, tolerances, patience and friendships.

The benefits of inclusive education are numerous for students with special educational needs. For example, some of them are:
    i.   Warm and caring friendships

ii.   Increased social initiations, relationships and networks
iii.   Greater access to general curriculum
iv.   Increased inclusion in future environments
v.   Improvements in self-concept
vi.   Development of personal principles
vii.   Greater opportunities for interactions.

The inclusive education should play a key role to ensure individual development and social inclusion, enabling children and youth with disabilities to attain the highest possible degree of autonomy and independence. In this frame, school societies try to support full participation of students with disabilities in all areas of their lives on equal terms and conditions (Bowers, H 2020).

Statement of the Problem
The integration of technology in teacher education has become an essential factor in preparing educators to address diverse learning needs effectively, particularly for students with learning disabilities. In North East Nigeria, however, the implementation of adaptive and inclusive educational practices remains limited, largely due to inadequate resources, insufficient training, and lack of structured support systems. This gap not only affects the quality of education provided to students with learning disabilities but also limits the capacity of future educators to create inclusive learning environments.

While global research underscores the benefits of using technology to support students with disabilities through tools such as assistive devices, adaptive software, and personalized learning applications these resources are often unavailable or underutilized in North East Nigeria. Teacher education programs in the region often lack sufficient exposure to innovative approaches that enhance teaching strategies for students with special needs. Consequently, future teachers may enter the profession underprepared to support diverse learners effectively, especially those with learning disabilities.

Existing studies on inclusive education and technology integration in Nigeria are limited in scope, with little focus on teacher education programs in the North East region. This gap highlights a critical need to explore the specific challenges, perceptions, and opportunities surrounding the use of technology in supporting learning disabilities within these programs. Understanding these dynamics is crucial to developing strategies that will foster inclusive education through better resource allocation, professional development, and policy support.

This study, therefore, seeks to address the gap by investigating the extent of technology integration in teacher education for supporting students with learning disabilities in North East Nigeria. It also aims to analyze teacher educators' attitudes toward inclusive strategies and identify the key challenges that limit the adoption of technology-based solutions. By focusing on these areas, this research hopes to provide insights that will contribute to the advancement of teacher education practices and improve educational outcomes for students with learning disabilities in the region.

Objectives
The Objectives of this study is to:
1.   Assess the level of technology integration in teacher education programs in supporting students with learning disabilities in North East Nigeria.

2. Evaluate the attitudes of teacher educators toward innovative teaching strategies and inclusive practices for students with learning disabilities.
3. Identify challenges for the adoption and implementation of technology-based solutions for supporting students with learning disabilities in colleges of education in North East Nigeria.

Research Questions
1. What is the current level of technology integration in teacher education programs designed to support students with learning disabilities in North East Nigeria?
2. What are the attitude of teacher educators toward innovative teaching strategies and inclusive practices for students with learning disabilities?
3. What are the challenges for the adoption and implementation of technology-based solutions for supporting students with learning disabilities in colleges of education in North East Nigeria?

Hypotheses
Ho₁: There is no significant relationship between the level of technology integration in teacher education programs and support provided to students with learning disabilities.

Ho₂: There is significant relationship between Teacher educators' positive attitudes toward innovative teaching strategies and inclusive practices.

Ho₂: There is no significant challenges for the adoption and implementation of technology-based solutions for supporting students with learning disabilities in colleges of education in.

Methodology
This section outlines the research design, population, sample selection, data collection methods, and analysis procedures used to explore the use of technology and innovative strategies for supporting learning disabilities in teacher education programs in North East Nigeria.

This study adopts a descriptive survey design to capture detailed information on the current state of technology integration and inclusive teaching strategies in teacher education. The survey design allows for the collection of quantitative data that reflects the perspectives of teacher educators on their experiences, attitudes, and challenges in adopting technology to support students with learning disabilities. The population for this study consists of teacher educators and administrators in colleges of education across North East Nigeria. A sample of 150participants was selected using stratified random sampling to ensure representation across different colleges and departments within the teacher education programs. This sampling technique enhances the generalizability of the findings by including diverse perspectives on technology and inclusivity. Data were collected through a structured questionnaire that was validated by educational experts to ensure clarity, relevance, and reliability. The questionnaire included sections on: Demographics: Background information on participants, such as years of experience and familiarity with inclusive education. Technology Integration: Questions assessing the level of technology use in supporting students with learning disabilities. Attitudes toward Inclusive Strategies: Items measuring participants' attitudes towards using innovative and inclusive strategies. Challenges and Resources: Questions identifying obstacles and resources that affect the implementation of technology-

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based solutions. Data were analyzed using descriptive statistics and regression analysis. Descriptive statistics (e.g., mean, standard deviation, frequency) were calculated to **Results**

provide an overview of the responses. Regression analysis was employed to test the hypotheses and examine relationships between variables.

Table 1: Descriptive Statistics of Data on Innovative Approaches and Integrative Strategies in Teacher Counselor

Variables	Mean	Standard Deviation	Frequency (%)
Technology integration level	3.45	0.86	Low: 40%
			Moderate: 35%
			High : 25%
Attitudes toward inclusive strategies	4.12	0.62	Positive: 70%
			Neutral: 20%
			Negative :10%
Challenges in implementation	3.78	0.90	Low: 15%
			Moderate:50%
			High: 35%
Availability of resources	2.90	0.95	Low:55%
			Moderate: 30%
			High: 15%

The Table 1 indicate that attitude of teacher educators shows higher in the mean scores followed by the challenges then the availability of resources for the innovative approaches and adoption of technology in to teaching and learning for students with learning disabilities descriptive statistics indicate that the level of technology integration in teacher education programs is generally low to moderate, with only 25% of respondents indicating a high level of integration. Attitudes toward inclusive strategies are mostly positive, with 70% of respondents reporting a favorable view. However, the challenges associated with implementing these strategies are significant, with 35% facing high levels of difficulty. Resource availability is low for most institutions, highlighting a critical gap that may impede the successful adoption of inclusive practices.

Table 2: Regression Analysis on on Innovative Approaches and Integrative Strategies in Teacher Counselor

Predictor variables	Dependent variables	Co-efficient	Standard error	t-value	p-value	Interpretation
Technology integration level	Supports for learning disabilities	0.45	0.10	4.5	0.001	Significant positive relationship higher technology integration leads to improved support
Attitudes towards inclusive strategies	Implementation success	0.30	0.08	3.75	0.001	Positive attitude significantly enhance implementation of inclusive strategies.
Availability of resources	Technology adoption	0.40	0.09	4.44	0.001	Increased resources significantly boost technology adoption effort.

The Table 2 regression analysis demonstrates that there is a significant positive relationship between each predictor variable and the dependent variables. Higher levels of technology integration are associated with better support for students with learning disabilities (p = 0.001), indicating that greater use of technology positively impacts inclusive support efforts. Positive attitudes toward inclusive strategies also significantly enhance implementation success (p = 0.001), affirming that teacher educators' perceptions play a crucial role in inclusive education. Additionally, resource availability is a significant factor in technology adoption (p = 0.001), suggesting that improved funding and access to resources are essential for the effective implementation of technology in to teaching.

Summary
This methodology and analysis reveal that while teacher educators generally view inclusive strategies positively, limitations in resources and technology integration continue to hinder effective support for students with learning disabilities. These findings underscore the need for targeted investments in resources and professional development to strengthen the adoption of technology-based solutions in teacher education programs.

Conclusion
Students with learning disabilities are less likely than students without disabilities to start school and have lower rates of staying and being promoted in school. These students should have equal access to quality education, because this is real way to human capital formation and their participation in social and economic life this means if there is good integration of technology in to the teaching and learning will significantly improve their performance in all aspect of learning.

While students with learning disabilities have historically been educated in separate special schools, inclusive mainstream schools provide a cost-effective way toward. Inclusive education is better able to reach the majority and avoids isolating students with disabilities from their families and communities.

A range of barriers within education policies, systems and services limit disabled children's mainstream educational opportunities. Systemic and school-level change to remove physical and attitudinal barriers and provide reasonable accommodation and support services are required to ensuring that students with special needs have equal access to education in an inclusive environment.

Every child has a fundamental right to education and must be given the opportunity to achieve and mountain an acceptable level of learning. Every child has unique characteristics, interests, abilities and learning needs, so educational system should be designed and educational programmers implemented to take into account the wide diversity of these characteristics and needs.

Recommendations
The study recommends that:
1. Colleges of education in North Eastern Nigeria invest in professional development focused on technology integration and adaptive strategies for learning disabilities.
2. Create an avenue for partnerships between educational institutions and stakeholders should be strengthened to improve resource availability and support the sustainable adoption of innovative teaching practices.
3. Collaborative effort also made to improve quality education and advancement of technology integration in to the teaching of

students with learning disabilities in north eastern Nigeria through community leaders, youth support and non-governmental organization (NGOS)
4. Government should pay emphasis on inclusive education all over to ensure smooth running the education system in all respect

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